## **AUTHOR INDEX TO VOLUME 43**

A	1	Banerjee, S		C	
		Barbari, T. A			
Abbott, K. A	3193	Barolo, M		Cabral, J. M. S	1975
Achanta, S	2112	Barringer, S. A		Callaghan, P. T	2096
dachi, M		Bart, HJ		Cammarota, A	363
detayo, A. A	927	Barton, P. I	2246	Campbell, J. D	157
dler, P. M	1653	Basak, T	1662	Camurri, S	
dumitroaie, V	1935	Baxter, L. T	818	Carr, R. W	
frane, G	277	Beaman, D. R.	2624	Carroll, D. F	
gnihotri, R	2323	Beenackers, A. A. C. M	2571	Casal, M	1403
grawal, R.	2984	Behnia, M	2180	Castellari, A. T.	
gterof, W. G. M		Bellan, J	1605	Castilla, M.	
guayo, A. T		Bellehumeur, C. T	3253	Catoire, L	
hmad, A. L		Beller, J. M	1627	Cechini, J.	
I-Shawabkeh, A		Benito, P. L	1551	Cechini, J. O	
Albuquerque, J. S		Bennett, D. L	1611	Cermansky, N. P.	
Allan, B. A		Berg, J. C	1480	Chahine, G. L.	
Alvarez, J		Berger, P. E	3059	Chakrabarti, M	
Andersson, L		Bergougnou, M. A	1469	Chandrasekaran, M	
Andreussi, P		Bernstein, L. A		Chang, A. Y	
Androff, N. W		Berry, D. A		Chang, CC	
Annamalai, J		Bertucco, A		Chang, CT.	
nnangi, S		Beyenal, H		Chang, M. B.	
nnapragada, R		Ві, Н. Т		Chang, TS	
		Biegler, L. T		Changrani, R.	
Anolick, C		Bigio, D. I.		Channell, G. M	
Apicella, E		Bilbao, J		Chaput, F.	
Arkun, Y		Biscaia, Jr., E. C.		Chauk, S.	
Armitage, P. D.		Boger, D. V.		Chavarie, C	
Asbjornsen, O. A		Boilot, JP.		Chen, B	
Asua, J. M.		Bombač, A		Chen, DH.	
Ataai, M. M		Boon, A.		Chen, J.	
Athier, G		Borio, D. O		Chen, L.	
Au, B. W		Botteon, F.		Chen, Z. A.	
Avalosse, Th		Boucher, Y.		Cheng, B	
Awano, M.		Bourne, J. R		Cheng, H.	
Ayappa, K. G	015, 1002	Bowen, B. D.		Cheng, ZM.	
		Bowen, W. R.		Cheung, M. K	
В		Braatz, R. D		Chien, IL.	
В		Brandon, N. C.		Chimowitz, E. H	
Bacon, D. W	2261	Bray, K. L.		Chirone, R.	
Bagajewicz, M. J		Brereton, C		Cho, G.	
Bahri, P. A		Brewster, J. H		Cho, YS	
Bai, D		Briens, C. L.		Choi, K.	
Bai, R		Briens, L. A Broadbelt, L. J		Choplin, L.	
Bakker, W. J. W				Choudhary, S	
Balakotaiah, V		Brouwers, H. J. H		Choudhary, V. R	
Balasubramhanya, L. S		Brown, C. E		Christodoulou, K. N	
Baldyga, J.		Bruinsma, O. S. L		Chun, MS.	
Bañares-Alcántara, R		Brunazzi, E		Churchill, S. W.	
Bandini, S		Bullin, J. A.		Chylla, R. W.	
Bandoni, J. A		Burganos, V. N	844	Ciajolo, A	
Handyonadhyou A	7840	Burggraaf A I	7710	Cinar A	7( M)

Bandyopadhyay, A. .....2849

Banerjee, A......1204

Burggraaf, A. J. .....2710

Burns, L. F......1390

Çinar, A. ......2002

Cioci, F. ......525

Clark M M	229	Dunger C D	25	Causles C	1940
Clark, M. M.		Dungan, S. R.		Gavalas, G.	
Cluett, W. R.		Dunmead, S. D.		Gavalas, G. R	
Cochran, G. A	1	Dushkin, O. V.		Gavrilov, C	
Cochran, H. D.		Dutta, J.		Gayubo, A. G.	
Cohen, M. H.		Dye, S. R	91	Ghannam, M. T	
Cokjat, D.				Ghosh-Dastidar, A	
Conner, C. L.		TO		Gidaspow, D	
Cook, M		E		Gilkes, K. W. R.	
Coronas, J		Echevarría, A	1060	Giona, M	
Costa, V. C		Eckert, C. A		Givi, P	
Counce, R. M.		Economou, I. G.		Gland, J. L	
Coutelieris, F. A		Eduardo Sáez, A		Godo, M	
Crochet, M. J.		Egan, B. Z.		Gol'dshtein, V	
Croiset, E		Eisman, G. A.		Gonzalo, A	
Cross, J. S		Elemans, P. H. M		Gouesbet, G	
Crowe, C. M				Govind, R	
Crump, B.		Ellenberger, J		Grace, J. R	
Cui, S. T		Elvassore, N		Grant, C. S	
Cummings, P. T		Englezos, P.		Gravitt, A	
Cushman, J. H	2112	Ennis, B. J.		Guay, M	
		Ernst, W. R.		Gubbins, K. E	
-		Esmail, M. N	1579	Guilkey, J. E	
D				Guiochon, G935	, 1964, 2960, 2970
D'Amore, M	1262	F	,		
d'Anna, A		r			
Dam-Johansen, K.		Falconer, J. L	1797	Н	
Dardas, Z.		Fan, LS.		Hashles M. A.	2122
Dave, P		Faravelli, T		Hackler, M. A.	
		Farkas, T.		Hafner, K. P.	
Davis, E. A.		Farooq, S		Hamilton, R. T	
Davis, H. T.		Featherstone, A. P		Hangos, K. M.	
Davis, M. E.		Feng, ZG.		Hanna, O. T.	
Davison, R. R.		Fernandez, E. J.		Hanush, R. G	
de Buruaga, I. S		Filipič, B		Harada, M	
de Graauw, J		Firebaugh, S. L		Harold, M. P.	
de Kretser, R		Firoozabadi, A		Harrell, C. L.	
de la Cal, J. C.				Harstad, K. G	
de Lucas, A		Fischer, J		Harwell, J. H	
de Swart, J. W. A		Fitzgerald, S. P		Hasatani, M	
De, D		Floquet, P		Hashimoto, T	
Dean, A. M.		Food P. M.		Hasnat, A	
Del Pozo, M		Ford, R. M.		Hatziavramidis, D	
Deng, F.		Forster, K. M.		Hatzikiriakos, S. G	
Deng, S. G		Fortuin, J. M. H		Haure, P. M	
Denn, M. M.		Forzatti, P		Hay, J	
Diamond, S. L.		Francis, G. L		Hayashi, T	
Dickson, M. L.		Francis, L. F		Hayes, K. S	2153
Dillow, A. K			1569	He, C. H	2944
Dimitriadis, V. D			3223	He, K	1914
Diwekar, U. M		Friedlander, S. K		He, Z	345, 1914
Dixon, A. G		Froment, G. F	118	Healy, T. W	1171
Doherty, M. F.		Frymier, P. D	1341	Heidman, J. L	535
Domenech, S.			2688	Heiszwolf, J. J	1060
Dong, J		Fyhr, C	2889	Herron, D. M	2984
Donohue, M. D	180			Hill, J. C	902
Doyle, F. J., III425, 7	03, 1016, 1189,		-	Hill, P. J	715
	1763, 3175	(	3	Hillestad, M	1082
Dranoff, J. S	2837			Hirai, M	
Du, YG	1785	Gabarain, L. J	166, 1813	Hirai, J	
Ducoste, J. J.	328	Gaffuri, P.	1278	Hirasaki, G. J	3241
Duduković, M. P					

Hirshburg, R. I	3133	Kajiwara, M	2715	L	
Hlavacek, V	3085	Kalagnanam, J. R	440		
Hobbs, D. M	3121	Kalumuck, K. M	2157	Lafarga, D	3095
Hodouin, D	1785	Kamehara, N	2844	Lakshminarayanan, S	2307
Hofmann, H	475, 2610	Kamst, G. F	665, 673	Landeta, A.	1551
Hofmeister, H	2610	Kao, J	655	Landman, K. A.	3147
Horstkamp, S. W	1108, 1988	Kapteijn, F	2203	Laso, M	877
Houriet, R	2610	Kapur, P. C	1171	Lavecchia, R	525
Houwers, J	73	Karamanev, D. G	1163	Lavie, R	2376
Hrenya, C. M	853	Kardos, J. L	2535	Le Sceller, L	2194
Hrymak, A. N.	2415	Karwe, M. V	2424	Lee, D. J	273, 913
Hsing, I-M		Kass, R. E	986	Lee, H	1884
Hsu, DS		Katsuyama, H	2809	Lee, JS	2827
Hsu, J. C. C	to be a second to	Kawaji, M		Lee, J. W	2446
Hsu, J. T		Kayihan, F.		Leiza, J. R	1069
Hsu, YC		Kazarian, S. G.		Lemcoff, N. O	419
Huang, CJ		Kehat, E		Lepomäki, H	
Huang, X.		Keizer, K		Lerou, J. J.	
Hudson, C		Kemoun, A.		Lesniewski, T. K	
Hwang, J. H		Kerekes, R. J.		Letellier, C	
				Lévy, Y	
Hyun, J. H	2002	Kessler, D. P.		Lewis, Jr., J. E.	
		Khinast, J			
_		Khoultchaev, Kh. Kh		Leysen, R	
I		Kim, KS		Li, H. Z	
		Kim, W. S		Li, P	
Isaac, T		Kinoo, A		Liauw, M. A.	
Ishihara, A		Kinoshita, M		Lietti, L	
Izrar, B		Klein, M. T.		Lim, C. J	
Izzo, B	2048	Kleinig, A. R.		Lin, IN	
		Klewicki, J. C	1947	Lin, TJ	
		Klinke II, D. J	1828	Lin, Y. S	
J		Klocker, H.	2479	Ling, YC	
		Kochan, R. J.	1627	Liotta, C. L	
Jagarlamudi, S	2751	Kodas, T. T.	2665	Litto, R	
Jain, R. K	818	Kodera, Y	3205	Liu, H	
Janas, V. F	2849	Koenders, M. A. C	946	Liu, KS	2857
Jang, H. D	2704	Kofke, D. A	631, 1366, 2381	Liu, M. L	2289
Jansen, M. L.		Kohav, T	1091	Liu, TJ	3117
Janssen, J. J. M	1436	Köhler, V	1153	Lodge, T. P	1921
Jansson, K	2874	Kojima, T	2715	Loehe, J. R.	180
Jayawardena, S. S	1637	Koloini, T	754	Lorencez, C.	1426
Jensen, A		Komiya, J	2865	Loutaty, R	1469
Jensen, K. F.		Kong, D. D		Lu, B. CY	2215
Jiang, H.		Koo, KK		Lu, HH	1909
Jiang, P		Korsten, H.		Lu, Y	1717
Jiang, Q.		Kosar, T. F.		Lund, C. R. F	495
Jiang, Y.		Koshizaki, N		Luo, R. G	
Jin, G.		Kotlarski, N.		Luo, X	
Jin, Y.		Koval, C. A.		Luss, D	
Johnsson, J. E.		Köylü, Ü. Ö.		Lusseyran, F.	
				Luyben, K. Ch. A. M	
Jones, A. G.		Krishna, R.		Luyben, M. L.	
Jones, F. J.		Kruse, M		Luyben, W. L	
Joseph, B.		Kubo, M.		Luyten, J.	
Jung, K. T		Kubota, N.		Lygeros, A. I	
Juvekar, V. A	2605	Kudva, G. K.		Lygeros, A. I	400
		Kuhn, D. C. S			
		Kulkarni, R			
K		Kumar, S. B		M	
		Kuo, DH			
Vala T	3105	Kurihara, K	2844	M'chirgui, A	260
Kabe, I		Kuwahara, Y		Ma, Y. H	

Ma, Z		Moulijn, J. A		Pantelides, C. C	
Maa, JR		Mouline, Y		Parekh, V. S	2153
Madras, G	802	Mudde, R. F	913	Park, T	2246
Mahuli, S. K	2323	Muir, J. R		Park, Y. K	
ſajoo, S		Mulla, S. A. R		Parrillo, D. J.	2239
Malek, A		Müller, H		Patierno, O	
Maliavski, N. I		Mutha, R. K		Patwardhan, A. V	
Malinen, P		Muzzio, F. J.		Payatakes, A. C.	
Mallapragada, S. K	10.000			Pearson, R.	
Mallinson, R. G				Pedernera, M.	
Mallya, J. U		N		Pedersen, K. S.	
Malone, M. F		14		Pekny, J. F	
Maner, B. R		Nagaosa, R	2302	Pelton, R.	
мапег, в. к Мао. Т.		Nair, J.	3.515	Penlidis, A.	
		Nair, J			
Maranas, C. D				Perkins I D	
Maretto, C		Nakamura, Y		Perkins, J. D.	
Margaritis, A		Nandakumar, K		Perré, P	
Markatos, N. C.		Nasr-Esfahany, M		Phillips, R. J.	
Markina, J. V		Negiz, A		Pibouleau, L.	
Marr, R.		Netti, P. A		Picasso, M.	
Marrero, T. R		Ng, K. M9		Pierce, J.	
Marsh, K. N		Nico, J. A	792	Pipus, G.	
Martina, G. B		Nikolaou, M	2279	Piret, J. M	
Martínez, J		Nikolov, A. D	3215	Plazl, I	
Marzocchella, A		Nikou, I. D		Pokluda, O	
Matsuda, H.		Nishino, T		Porras, J. A.	
Matsukata, M		Nishiyama, N		Potters, J. J. M	
Maurer, R. T.		Nisoli, A.		Pouillot, F. L. L.	
Mauri, R		Nitsche, J. M.		Powell, R. L.	
Mazzotti, M		Nitta, T		Prabhukumar, S.	
McAuley, K. B		Noble, R. D.		Pratsinis, S. E.	
McCarthy, M. J		Nobie, R. D		Pratsinis, S. E	
McCormick, A. V		Norton, T. T.			
McCormick, A. V McCoy, B. J		Nova, I		Price, P. E	
		1107a, 1	2339	Puszynski, J. A	275
McKinley, G. H McLellan P I			1		
McLellan, P. J			1		
McMurtry, P. A		0	1	Q	
Menéndez, M		O'M-11 To T			
Meng, SS		O'Neill, B. K		Qin, Y	197
Miao, S		Ogiwara, Kj			
Michaelides, E. E		Ogunnaike, B			
Michelsen, M. L.		Oh, C. H	1627	R	
Middelberg, A. P. J		Okamoto, Y			
Midoux, N		Okasinski, M. J	2227	Raina, G. K	195
Miller, C. A	3241	Okos, M. R		Ramarao, B. V	
Miller, D		Okubo, T		Ramkrishna, D	
Miller, R. S.		Okuyama, K		Ranzi, E.	
Mirgain, C		Öttinger, H. C.		Rao, M. B.	
Mitchell, J. W.		Oumi, Y		Rasmuson, A.	
Miura, R.				Rasmuson, A. C	
Miyabe, K				Raupp, G. B	
Miyamoto, A		-			
		P		Ray, A. K.	
Mizan, T. I		Dooken 77 Y		Ray, W. H.	
Mizukami, F		Packer, K. J		Read, N. K	
Mizusaki, J		Padilla, S		Reese, J	
Mohan, K. K		Padovani, A. M		Réglat, O	
Moholkar, V. S		Paglianti, A		Reo, C. M	
Moore, J. D		Pakdel, P.	289	Rice, R. G	
			1641	Rice, S. F	
Morbidelli, M Moser, W. R		Panfilov, V.		Richardson, J. T	

Diggs I D	740	ch: 1	2250	The last ti	740
Riggs, J. B		Shi, JShih, CY		Taskar, U Taulbee, D. B	
Rinker, E. B.		Shirley, A. I.			
Rockman, J. T.		Shul, Y. G.		Tavares, F. W.	
Rodrigues, A. E.		Siddiqui, F. A		Tedder, D. W	
Rogers, W. J.				Téllez, C.	
		Silva, J. A. C		Tenney, J.	
Romagnoli, J. A		Sinclair, J. L.		Terasaka, K	
Romdhane, I. H.		Singh, G		Terauchi, Sy	
Rosenbaum, E. E.		Singh, R. R.		Terry, P. A.	
Rosner, D. E.		Sircar, S.		Tessier, J. J.	
Roth, P.		Sjauw Koen Fa, A. W. I		Teymour, F	
Ruth, D. W		Skalak, R		Thaeron, C	
Ryley, J. F.		Skogestad, S		Theologos, K. N	
Rynders, R. M	2456	Smith, M. S		Thibault, J	
		Smith, T. G		Thomas, M. M	
		Snyder, B. A		Thompson, K. E	
S		Soldati, A		Thomson, W. J	
		Somani, M	1519	Thovert, JF	1653
Saavedra, A		Sørensen, E		Tien, C	33, 1921
Sadakata, M	2650	Spencer, B. B	555	Tirrell, M	1, 2609
Safari, A	2849	Sridhar, L. N	1369	Tobias, C. W	2385
Safavi, A. A	1227	Srinivasan, R	3059	Tobolski, A	166
Sahinidis, N. V	2289	Stack, A. J	425	Tong, H	1242
Said, A. S	2146	Stadtherr, M. A	1032	Toor, H. L	263, 303
Saito, N	3264	Starling, K. E	1108, 1988	Tran, H	
Saito, T	2393	Stefansson, B		Tronconi, E	2559
Sakaue, S	339	Stewart, W. E	281	Tsai, CS	
Sakusabe, H	2837	Stirling, A		Tsai, CY	
Salatino, P		Stone, B. T.		Tsapatsis, M	
Saldívar, E.		Storti, G		Tseng, TF.	
Salih, B		Stover, R. L.		Tsonopoulos, C	
Samson, R.		Straathof, A. J. J.		Tsubata, K.	
Sandall, O. C.		Strieder, W		Tsuge, H.	
Sandler, S. I		Strieder, W. C.		Tsukada, M	
Santamaría, J.		Süer, M. G.		Turner, I. W.	
Sarti, G. C.		Sugawara, K.		Tyreus, B. D.	
Sasaki, T.		Sugawara, T.		Tyleus, B. D	3101
Sato, A.					
		Suleiman, D			
Sato, Y		Sun, B		U	
Savage, P. E.		Suris, G			2715
Scala, F.		Susnitzky, D. W		Uemiya, S	
Scales, P. J.		Swanson, D		Ueyama, K	
Scarinci, G		Szegner, J	2059	Umehara, H	
Schmidt, M. A				Umemura, M	3105
Schoenfelder, H					
Schools, E. M		T			
Schouten, J. C				V	
Schwank, J. W	2760	Tadrist, L	260		
Scott, R. A	135	Tagawa, H	2865	Vaidya, D. S	631, 1366
Šefčík, J	2773	Tai, C. Y	268	Valmalette, JC	2610
Şeker, Ş	243	Takahashi, T	357	Valverde, J. L	2141
Sepaniak, M. J		Takao, Y	2616	van Buel, M. J	693
Sevick-Muraca, E	655	Takeuchi, S	2997	van Dam, R. A	1649
Seymour, J. D.	2096	Talbot, J.	2471	van den Bleek, C. M	1458
Shah, N.		Tanaka, H	2865	van den Broeke, L. J. P.	2203
Shah, S. L		Tandon, P.		van den Tweel, W. J. J	
Sharma, S. K		Tang, Y		van der Wielen, L. A. M	
Sheikh, A. Y		Tang, Y. T		van Wunnik, J. M	
				Varma, A	
Sheintuch M	1691	I languv P. A	/911		
Sheintuch, M Sherman, D. C		Tanguy, P. A		Velamakanni, B. V	

Venerus, D. C	2948
Venkatesh, P. K	1331
Veret-Lemarinier, AV	2820
Vidaurre, M.	681
Viljoen, H. J.	3085
Vincent, M. F	1838
Virk, P. S	3257
Visco, D. P., Jr	2381
Vlachopoulos, J	3253
Vlachos, D. G	2083, 3031
von Meien, O. F	2932
Vrabec, J	212
Vuthandam, P	2279

#### W

Wagger, D. L.	3257
Wakeman, R. J	946
Wanchoo, R. K	
Wang, JP	2857
Wang, NH. L	
Wang, S	
Wang, Y	
Wang, Z	
Wasan, D. T	
Watson, A. T	2137
Watson, D. N.	1611
Weetman, R. J.	
Wei, F	
Wei, SH	2323
Weimer, A. W.	2609, 2624
Weinberger, C. B	2405
Weinstein, H	
Weislogel, M. M	645

Weiss, C	1153
Werther, J	
West, A. C	811
Westerberg, A. W	3193
Westin, G	2874
Weyten, H	
White, L. R.	3147
Wiescinski, M. A	1611
Willig, D. A.	1016
Wilson, G. M	
Wisnewski, P. A	3175
Witte, L. C	1637
Wittgens, B	971
Woiki, D	2670
Wolbach, J. P1	589, 1597
Woodside, S. M.	1727
Wu, DJ	232
Wu, HS	1309
Wu, PY	3117
X	
Xing, Y	2641

Xing, Y	2641
Xiu, GH	979
Xu, N	2359
Xu, S. J	2731
Xu, W	3215
Xu, YB	2650

#### 1

Yala, N	2948
Yan, JF	251

Yang, CT	1861, 1874
Yang, G	1190
Yang, J. D	811
Yang, YM	1909
Yeung, K. L.	2059
Ying, J. Y	2609, 2793
Yokota, M	3264
Yoon, JH	
Younis, B. A	893
Yu, YW	3117
Yu, Z	1190
Yuan, WK	1319
Yun, S. L. J	515
Yun, T	935, 2970

#### Z

	1684
Zhang, D	345
	2793
Zhang, S. X	104, 1265
Zhang, W	345, 1914
Zhong, G	935, 2960, 2970
Zhu, W	2657
Zhu, X	475
	1287
Zijerveld, R. C	1458
	1032
	1700
	2141
Žumer, M	2921
Žun, I	2921

Statement of Ownership, Management and Circulation required by 39 U.S.C. 3685 of October 1, 1997 for the AIChE Journal, Publication No. 002-560, issued monthly for an annual subscription prices of \$675.00 from 345 E. 47th St., New York, NY 10017, which is the location of its publication and business offices. The names and addresses of the Publications Director and Editors are: Managing Director, Publications, Stephen R. Smith, 345 E. 47th St., New York, NY 10017; Editor, Dr. Matthew V. Tirrell, Department of Chemical Engineering and Materials Science, University of Minnesota, Minneapolis, MN 55455; and Managing Editor, Haeja L. Han, 345 E. 47th St., New York, NY 10017. The owner is the American Institute of Chemical Engineers, 345 E. 47th St., New York, NY 10017. The known bondholders, mortgagees, and other security holders owning or holding 1% or more of the total amounts of bonds, mortgages, or other securities are: none. The purpose, function and nonprofit status of this organization and the exempt status for federal income tax purposes have not changed during the preceeding 12 months. The following figures describe the nature and extent of AIChE Journal circulation. In each category, the first number (in italics) is the average number of copies of each issue during the preceding 12 months. The number next to it, within parentheses (), is the actual number of copies of the single issue published nearest to the filing date. Total number of copies printed (net press run) 3,300 (3,300). Paid circulation: 1. sales through dealers and carriers, street vendors, and counter sales, none; 2. mail subscriptions, 2,487 (2,619). Total paid circulation 2,487 (2,619). Free distribution, by mail, carrier or other means, of samples, complementary, and other free copies 20 (20). Total distribution: 2,507 (2,639). Copies not distributed: 1. office use, leftover, unaccounted, spoiled after printing, 793 (661). 2. returns from news agents, none. Total 3,300 (3,300). I certify that the statements made by me are correct and complete. Managing Director, Publications, Stephen R. Smith.

# SUBJECT INDEX TO VOLUME 43

A	bed expansion45	cavitation1641
A	bifurcations2034, 2227	cavity structures
absolute rate theory. 2007	binary mixtures2984	cell disruption
absolute rate theory	binary systems	cellulose acetate
absorption58, 317, 2157 acrylic acid135	binomial distribution2146	centrifugal analysis837
	biofiltration	centrifugal densification2751
activated carbon761, 2509	biogas	centrifugal partition chromatography693
adaptive control2279	biokinetics	centrifuge experiment2133
adhesion	bioreactor	ceramic fibers2870
adsorption64, 277, 388, 419, 505,	bivariate drop distributions	ceramic membranes2359, 2710
761, 1569, 2187, 2203, 2353,	boiling heat transfer339	ceramics2609, 2610, 2616, 2624, 2636,
2471, 2509, 2997	Boolean satisfiability2246	2641, 2650, 2657, 2665, 2670, 2679,
adsorption kinetics	boundary layer2446	2688, 2698, 2704, 2710, 2715, 2724,
adsorption potential2997	branching tee1675	2731, 2741, 2751, 2760, 2765, 2773,
adsorption separation64		2785, 2793, 2802, 2809, 2820, 2827,
advanced oxidation2571	breakage	
aerated stirred vessel2921	breakthrough curves979	2832, 2837, 2844, 2849, 2857, 2865,
aerosol2616, 2665	bubble columns311, 913, 1390,	2870, 2874, 2878
aggregation2353	1414, 2903	ceramics processing2609, 2670, 2710
air entrainment1579	bubble dynamics	chance-constraint programming1250 channel turbulence
airlift1163	bubble flow1637	
alarm generation logic3021	bubble formation2903	channeling357, 2415
alkanolamine3223	bubble growth2948	chaos145
alkoxide2837	bubbles265, 2385	characterization
alternative fuels1108, 1988	BZT2844	chemical engineering283
alumina2878		chemical reaction kinetics2479
alumina supported CuO505		chemical synthesis2083
amines2153	С	chemical vapor deposition2688
ammonia oxidation3059		chlorine dioxide2148
analytical solution1114, 2215	anka filantian 22 272	chloroform196
anisotropy1649	cake filtration33, 273	8-1
annular flow1637	cake growth	0 1 3
approximate solution979	calcium carbonate2323	
aqueous media2048	canonical variate analysis2002	
aqueous solutions180, 2773	capacitor	0
artificial intelligence283	capacity expansion2289	
associating fluids2381	capillary column2932	
attrition363	capillary flow645	
autoclave104	capillary force2802	
autoclave curing2535	capillary pressure837, 2133	
automatic hazard analysis1494	capillary rheometry598	
autothermal reactors127	carbon dioxide1838, 322	
	carbon molecular sieve419	
	carbothermal2624	
	Carreau model311	
В	catalysis169	
	catalysis methane conversion273	
back-off997	catalyst particle1082	
BaCO <sub>3</sub> 1091	catalyst reactivation155	
bacteria1341	catalyst support2710	
barium carbonate1091	catalytic cracker48	
barium titanate2665, 2837	catalytic membrane reactor274	
batch distillation440, 2601	catalytic reactions307	
batch process quality control2535	catalytic reformer74	
bed collapse technique1190	cationic polymers148	coherent structures913

coking118
colloidal dispersion1480, 3215
colloids218, 565
column dynamics73
column heterogeneity, peak tailing1964
column size reduction
combustion1141, 1331, 3070 combustion synthesis2751
compustion synthesis
complex mixtures
composite membrane
composite particle
compressional rheology3147
compressive yield stress1700, 3147
computational chemistry1287
computational complexity2289
computational fluid dynamics104, 902
computer generation of reaction
mechanisms1828
computer graphics2765
computer-aided design715
concentration dependence2997
concentration profiles935
condensation13, 681, 1955, 2073, 2773
condenser-reboiler339
conduction609
conductometric gas sensor2760
connectivity
consistency547 constant wall resistance1975
contact angles
continuous copolymerization
reactors448
continuous flow reactor
continuous kinetics802, 1529
continuous-distribution kinetics3205
control425, 440, 448, 655, 662, 703,
811, 986, 997, 1016, 1069, 1189, 1204,
1227, 1250, 1511, 1662, 1763, 1989,
2021, 2246, 2261, 2279, 2307, 2546,
3007, 3042, 3059, 3111, 3133, 3161
control law nonlinearity425
control-relevant nonlinearity425
controllability
controlled deposition
controlled dispersion
convection-diffusion-631
conversion754
copolymerization reactors2021
copolymerization reactor control448
copper deposition811
core analysis837, 2133
cosolvent847
countercurrent chromatography963
countercurrent unit design64
cracking118
creep measurements665
critical point277, 535
cryogenic339

crystal structure	2865
crystallization1448, 1751, 2610	0, 3264
CSTR	1060
current distribution	811
cut-off size	927
CVD	2715
CVI	1849
cycling	166
cyclone	2446
cylinders	615

#### D

Darcy's Law835
data reconciliation1785, 2546, 3021
data reduction547
DBE-concept1559
dead-end959
decision trees1448
decoking118
decomposition1091
decomposition kinetics2343
decontamination251
dehydrogenation495, 2059
dense oxide membrane2741
density estimation1227
density functional theory1589, 1597
depletion force3215
depolymerization802, 3205
deposition1849
deposition tube2679
deprotonation2773
design91, 283, 792, 997, 1060,
1250, 1331, 1511, 1737, 1751,
2289, 2300, 2624
design under uncertainty1250
desorption2187
desulfurization505
detection1180
deterministic chaos1357, 1458
devolatilization1861, 1874
dewatering1488, 1894
diffusion243, 631, 1653, 1717, 1838,
1925, 2932
diffusion coefficient2944
diffusion mechanisms2203
diffusion rate357
diffusion-controlled termination135
diffusion-reaction1691
digraph1494
dilution shift196
direct numerical simulation902, 2393
discrete systems1041
disentanglement870
disordered media2187
dispersion1377, 2096
dissipation model1390
dissociation equilibria73
dissolution870

distillation1751, 2984
distillation, batch971
distillation columns703, 1189, 1511
distillation, multicomponent971
distributed-parameter models1529
d <sub>max</sub> drops1372
dolomite173
downer1469
drag coefficient1955
drag reduction1117, 3257
drop population balance1153
droplet breakup1436
droplet impact2169
drug delivery818
drying681, 1925, 2112, 2889
dynamic media1366
dynamic process model3175
dynamics145, 157, 1141

## E

E. coli	.3232
Eastman process	.3161
eddy conductivity	.1125
eddy viscosity913,	1125
Editorial	1
eductor reactor	.2148
effect of CO <sub>2</sub>	.1091
effective heat capacity	.1662
effective tube diameter	.1319
electric migration	811
electrical conduction	2865
electrochemical transducers	.2849
electrochemistry	1709
electrofiltration	959
electrolysis	2385
electrolyte solutions	180
electrophoresis	
electrostatic adhesion	
electrostatic interaction energy	1194
electrostatic precipitation	1403
electrosteric stabilization	
empirical nonlinear model	
emulsification	1436
emulsifiers	
emulsion polymerization	
emulsion reactors	2021
energy	
energy efficient	
energy of formation	
entrainment	
epitaxial growth	
equation of state535, 547, 1372	
equilibria	
equilibrium	
equilibrium partition coefficient	
equilibrium shifting	
equilibrium theory	
Ergun equation	1319

rrors in variables method	986
stimation	1204
thane	1545
thylene	1545
vent tree analysis	1494
xcess enthalpy	196
xcess molar volume	196
xcimer laser	2636
xerted friction	281
experimental fluid mechanics	328
extinction	2083
extraction	555, 2146
extraction composition	935
extruder	1861, 1874
extrusion die	
F	

facilitated transport	1709
Fahraeus effect	
fast fluidized bed	1684
fault tree analysis	1494
feed conditions	2984
feedback and feedforward control	2307
ferrierite	83
fiber2802	2, 2874
fiber-resin composite laminate	
material	2535
fiber wetting	1579
film coating	2911
film formation	2688
film model	281
film profile	2180
films251, 280	2, 2874
filtercake	1488
filtration565, 1488, 170	0, 3147
fine particles3	3, 1190
fine solids	
finite elements577, 87	
first-order reaction	1060
5A zeolite	2524
fixed-bed adsorbers	979
fixed-bed reactor	1319
flame	2665
flame aerosols	2657
flame synthesis	2650
flame-synthesized nanoparticles	2641
flexibility	997
flocculation32	8, 2353
flooding	317
flotation process	1785
flow	
flow in porous media	565
flow mixing	1627
flow pattern maps	
flow reactor	3105
flow regimes	
flow simulation	577, 588
flow structure	1988

flow visualization2096
fluctuations277
fluid catalytic cracking486
fluid flow1377
fluid mechanics328, 598, 645, 877,
946, 1403, 1426, 1436, 1641, 1909,
2157, 2911, 3117
2157, 2911, 3117 fluid mixing328, 577, 588, 2921
fluidization260, 357, 486, 946, 1141,
1180, 1469, 1904
fluidization regimes1904
fluidized bed243, 268, 345, 363, 625,
1357, 1362, 1904, 1914, 2373, 2432
fluidized-bed crystallizer268
fluorescence1153
foam1861, 1874, 3241
food polymers2112
forced periodic operation785
formation1091
fouling1300
fractal aggregates2641
fractals1691, 1904, 2187
fractional Brownian motion1914
fragmentation363
free radicals1287
free surface2393
free-volume1925
friction281
froth reactor2148
frowning-crystallization91
FTIR1838, 3223
fugacity1287
fugacity coefficients1287
full disturbance profiles727
functional verification2246
fundamental model3175
furnace modeling118

## G

gas absorption	58
gas adsorption	2456
gas distribution	
gas holdup	1414, 2921
gas induction, onset	
gas permeation	2724
gas phase reaction	
gas switching	357
gas-induced reactor	
gas-liquid flow	1675, 2180
gas-liquid-solid fluidization	1180, 1904
gas-liquid-solid systems	2432
gas-particle flow	
gas-phase chemistry	
gas-phase nucleation	
gas-phase removal	1325
gas-solid flow	1684
gas-solid fluidized bed	
gas-solid reactions	
0	

gas-solids mixing	1469
gas-solids suspension	1458
Gaussian white noise	
gels	25, 2112
geometric proportion	2336
glass	1849
glass transition	
glassy polymers	1838
global coupling	
global mapping	
gradient correlations	464
gradient elution	464
granulation	505, 927
graph theory	1828
gravimetric technique	
gross error detection	
growth rate, crystal	

## H

Hartree-Fock theory	.1589, 1597
hazardous waste	
HAZOP	1494
heartwood and sapwood experi	mental
results	2579
heat capacity	2381
heat exchanger	3007
heat exchanger networks	1511
heat of formation	1559
heat transfer2, 281, 609,	1426, 2073,
	2368, 2432
heated horizontal jet	2373
helical screw impeller	2141
Henry's constants	535
heterogeneity	1377
heterogeneous CSTR	785
heterogeneous photocatalysis	
heterogeneous reactors	792
heterogeneous regime	311
heterogeneous transport	1082
heuristics	
hexagonally-packed structure	2793
high gas velocity	1190
high pressure4	
high-pressure homogenizer	1100
high solids content latexes	1069
high-purity column	
high-temperature kinetics	2670
hindered diffusion	25
history terms	609
HO <sub>2</sub>	1287
hollow fiber membrane	1975
homogeneous nucleation	2698
homogeneous-heterogeneous	
reactors	3031
Hurst analysis	
hybrid algorithms	3031
hybrid precursors	
hybrids	1751

ydrate		intraparticle diffusivity475	low-pressure chromatography23
ydration	173	inverse gas chromatography2932	low surface tension139
ydraulic capsule pipeline		inverse solution655	low temperature127
ydrocarbon761, 127		ion diffusion2479	lubrication326
ydrocarbon processing		ion exchange73	lysozyme52
ydrocarbon solubility		iron complex oxide2636	
ydrodesulfurization		iso-pentane	
ydrodynamics116		isotope exchange2456	
ydrogen		isotope exchange2430	M
ydrogen bonds			
ydrogen cyanide			machine learning144
		J	macroporous ceramics287
ydrogen exchange		9	magnesium oxide276
, ,		journal bearing877	magnesium silicates
ydrogen peroxide		Journal Ocalling077	magnetic flux pinning261
ydrogen sulfide			magnetic resonance imaging
ydrogen-bonding			Marangoni convection
ydrothermal synthesis		K	
ydroxylic additives			mass diffusion
yperbolic heat transfer		Kalman filter 702 1100	mass transfer681, 693, 1390, 168
IZSM-5 zeolite	1551	Kalman filter703, 1189	1975, 1988, 2336, 2157, 2187, 24
		kamyr digester3175	mass-transfer coefficient19
		Karhunen-Loeve expansion727	massively parallel supercomputers32
*		Kenics mixer588, 3121	mathematical modeling486, 1975, 32
I		kinetic lumping486	MCM28
		kinetic modeling475, 740, 1278	measurement11
AS	2509	kinetic reactor2571	mechanical expression665, 6
dentification	986, 1989	kinetics135, 1082, 1114, 1331,	mechanism reduction18
gnition	127, 2083	2605, 2837	medical films31
MAC	3232	Knudsen diffusion398	medium clogging2
mage analysis			membrane83, 495, 777, 959, 27
maging			membrane reactor1819, 2059, 30
mmiscible liquid			membrane selectivity22
mmobilized soil		L	membrane separations
mpacting tee			mesoporous materials
mpinging jet		Laplace approximation986	metal carbonyl
n situ film growth monitoris		La-Ni-Oxides2874	methane
n-line interactions	-	lamella3241	methane oxyreforming27
ncrustation		laminar mixing577, 588	methane storage
		large bubble holdup311	
ndustrial crystallization		large-scale systems1016	methanol
nfrared spectroscopy		laser ablation	methylethylketone13
nitiation mechanisms			micelle
norganic membrane		laser Doppler anemometry2424	microreactors30
nput-output linearization		lateral migration	microseparations13
nstability		Lennard-Jones2215	microelectronic device2
nstantaneous reaction		limestone	microfabrication30
nteger optimization		limiting activity coefficients3271	microfiltration
nteger programing	2246	limiting capillary pressure3241	microgravity1
integrated sensors	3059	linear driving force761	microstructure tailoring2
ntelligent systems	283	linear dynamic systems2546	microwave heating615, 754, 10
ntensity	263	linear programming1016	middle vessel20
interaction compensation co	ontrol	liquid chromatography464, 3232	minichemical systems30
scheme		liquid energy density,	minimum fluidization45, 19
interface		increased1108, 1988	minimum fluidization velocity1
interface dynamics		liquid crystals1366, 2827	miscible displacement2
interfacial supersaturation		liquid holdup317	mixed-integer optimization2
interfacial transfer		liquid membrane2376	
			mixing263, 303, 1265, 19
interfacial turbulence		liquid-phase adsorption2997	2194, 3
interfacial viscoelasticity		liquid properties45	mixing efficiency
interparticle forces	853, 1171	liquid-liquid dispersions1153	mixing length1
interphase mass transfer		liquid-liquid extraction2479	mixing rules

model based control1989	niobium-doped silicates2793	oxidation1278, 2083
model predictive control1016, 2279	nitric acid555	oxidation, partial3059
modeling118, 693, 1041, 1141, 1171,	nitrile2048	oxidative coupling of methane3095
1265, 1309, 1348, 1372, 1763, 1988,	nitrogen339, 419	oxidative dehydrogenation777
2194, 2203, 2307	nitrogen oxides3070	oxide superconductor2616
moisture2112	noncircular ducts893	oxides1171
molasses2141	nonelectrolytes3271	oxycracking of ethane1545
molecular design1250	nonequilibrium molecular dynamics3260	oxygen deficiency2865
molecular dynamics2765	nonequilibrium phenomena13	oxygen distribution777
molecular models877	non-Newtonian fluids265, 2596	ozone decomposition1988
molecular orbital theory1589, 1597	non-Newtonian liquids1579, 2903	*
molecular simulation212, 1287	nonspherical particles2889	
molecular weight distribution	nonequilibrium molecular dynamics3260	
(MWD)802, 1265	nonideal388	P
moment979	nonionic25	
moments of MWD802	noniterative1605	packed bed792
monoliths2802	nonlinear adsorption equilibria64	packed-bed biofilter1348
Monte Carlo methods440, 3031	nonlinear control425, 2261, 3111	palm oil665, 673
Monte Carlo simulation1194	nonlinear control systems1763	paper deinking1480
morphology1649	nonlinear dynamics2194	paper machine control1016
moving bed chromatography2960, 2970	nonlinear inference986	papermaking2353
MTG process1551	nonlinear model predictive control3042	parallel computing1032
multi-rate state estimation3042	nonlinear optics2827	parallel diffusion model2724
multicomponent	nonlinear process control448	parameter estimation986
multicomponent condensation	nonlinear programming3007	partial molar properties277
multicomponent equilibrium2509	nonlinear systems	particle collection2446
multicomponent mass transfer2479	nonlinearity measure425	particle generation2688
multicomponent phase diagrams1737	nonuniform catalyst distribution2059	particle image velocimetry913
multicomponent mixtures681	nonuniform media	particle migration565
multiphase flow1641	nuclear magnetic resonance (NRM)196,	particle morphology2665
multiple chemical reactions902	1653, 2096, 2137, 2596	particle morphology evolution2641
multiple models1204		particle nucleation
multiplicity127, 2034	numerical analysis1627	particle size
multiresolution analysis1227		particle-size distribution260, 655, 715
multiscale processes3031		particle technology715, 946
multisolid wax	0	particle-particle interactions853, 1171
multistage2146		particles
	oblate spheroid2368	particles trajectory1627
multistage operations1369	off-line quality control440	partition coefficient693
multivariable dynamic process	oil251	Peclet number631, 844
monitoring2002	oil-assisted agglomeration1480	performance improvement1448
multivariable processes2037	olefins production	
	on-line calorimetry1069	periodic operation166 perm selectivity495
	on-line identification727	
N		permeability565, 673, 835, 1448
**	on-line sensing	permeability decrease33
<i>n</i> -butane1797	on-off control	perovskite2731
<i>n</i> -betane	one-dimensional model2471, 3117	perovskite membrane
nanosized zeolite	operation	persistence of excitation2279
	optical activity2820	perturbation theory218, 63
nanocomposite clusters2809	optical rheometry1921	petroleum mixtures1372
nanocomposites2710	optimal control425	pH73, 3232
nanoparticles2610, 2636, 2657	optimization740, 1032, 2123	phase equilibria327
nanophase	optimizing control997	phase inversion2878
natural gas212	order parameter2827	phase separation1675
natural gas vehicles1108, 1988	organic silicon2688	phase transformation2710
network design3007	organic-inorganic hybrid materials2820	phase-transfer catalysis130
network model1377	organized motion1426	phenol1884
neural networks1684, 1785	orthonormal wavelet transform1914	phosphazene1309
neutron scattering2870	oscillating flow2157	phot-oxidation792
Newtonian fluid2911	osmolytes525	photocatalysis792
Ni/SiO <sub>2</sub> /Al <sub>2</sub> O <sub>2</sub> catalyst 475	output feedback 425	photocatalytic reaction engineering 70'

Ni/SiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> catalyst ......475

photocatalytic reaction engineering ......792

photocatalytic reactor2571	pressure filtration3147	reactions303, 374
photochromic dye activation1426	pressure fluctuations345, 1357, 1914	reactiviation kinetics1551
photographic films3133	pressure profile2911	reactive azeotropy2227
photon migration measurement655	principal components analysis727, 1242	reactive crystallization1737
physiological transport barriers818	probabilistic analysis2289	reactive ion exchange2605
piezocomposites2849	process control425, 440, 448, 655, 662,	reactive separations58
piezoelectric composites2849	703, 811, 986, 997, 1016, 1069, 1189,	reactor control1069, 3042
pilot plant157	1204, 1227, 1250, 1511, 1662, 1763,	reactor design792
pipe flow1947	1989, 2021, 2246, 2261, 2279, 2307,	reactor mathematical model3095
pivoted rotor837	2546, 3007, 3042, 3059, 3111, 3133, 3161	reactor modeling118, 1988
plane waves615	process engineering283, 1331, 2624	reactor/separator374
plant tissue culture232	process model703, 1189, 1763	reactors1114, 1331
plantwide control3161	process monitoring1227, 2546	rebound model2169
plasma2610	process operations283	reconciliation1242
plate-fin heat exchanger339	process simulations715, 3193	recycle chromatography232
platinum thin film2760	process stability3133	recycle process740
platinum-tin/alumina catalyst2059	process synthesis91, 1737, 1751, 2289	refolding2123
pneumatic conveying2889	process systems1511	relative gain array2261
pneumatic transport853	product and process design283	resistance1975
Poincare sections2194	profile modification2415	resistivity probe2921
poly(vinyl alcohol)870	projection to latent structures (PLS)2307	resonance615
polyelectrolyte complex2415	propane dehydrogenation1819	respirators2157
polyethylene13, 2073	protein separation464	restructuring kinetics2641
polyethylene, low density104	protein stability525	retention33
polyethylene oxide2353	proteins25, 218, 525, 897, 2123	retrofit2300
polyethylene reactor13	protoporphyrins2820	retrofit design997
polymer1861, 1874, 1925, 2157, 3253	pulp digester3175	reverse flow reactor2034
polymer additive1117	pulsed laser deposition	reversible303
polymer blend1649	PZT2849	Reynolds stresses913
polymer decomposition3205	1 2 1	rheological measurement1171
polymer degradation802, 1117		rheological simulation265
polymer design1250		rheology1171, 1894, 1921, 2596, 3117
polymer reactor control3042	Q	rheometer2596
polymer science283		rheometry2141
polymer solution2932	quadratic optical nonlinearity2820	ribbing instabilities2911
polymeric additives3257	quantum chemistry1287	riser reactors486
polymeric drops1436	quantum mechanics1589, 1597	robust control
polymerization13, 104, 135, 145, 157,	quantum-mechanical calculations2153	robust design440
448, 802, 1265, 2021, 3205	quasi-log normal distribution979	rubber sparger1390
polymerization reactor control1763	quintuple point1884	Rushton impeller2921
population balance modeling927, 1153	1	Table in policy in the same and
pore diffusion2605		
pore modification2359		
pore optimization2323	R	S
poroelastic model818		
porosity835	radial homogeneity	safety1060
porous media1377, 1849, 2096,	chromatographic column1964	safety verification1041
2137, 2415, 3241	radiation	salting-out crystallization91
porous solids2, 1653, 2368	radiation field model792	sampling2405
post-control monitoring2535	radical mechanisms3205	sampling techniques440
potassium hydrogen phthalate3264	raffinate composition935	saturation
powder	ramp-up2133	scalar transfer 2393
power consumption2336	rare-earth	scale effects
precipitates	rate enhancement	scaling277, 1372
precursor	rate parameters	Schiff base
prediction	reactant mixing	SCR, dynamic behavior2559
predictive control	reacting flows	SCR, dynamic benavior
premetering 2911	reacting flows	
preordering	reaction invariance	screening effects
preparative chromatography1964	reaction invariance	second harmonic generation2827
preparative cinomatography1904	Teaction kinetics1309	second-order1114
pressure drop317, 357	reaction system2650	secondary flows893

secondary measurement2535
secondary nucleation rate268
sedimentation3215
segregation
selected-area chemical
vapor deposition2760 selective agglomeration
selective aggiomeration1480 selective catalytic reduction SCR2559
selectivity681, 2471
semi-batch
semi-batch operation157
semi-continuous reactors2021
semicrystalline polymers870
sensor arrays2760
sensor redundancy3021
sensors
separation efficiency1611
separations91, 374, 631, 946, 1709,
1727, 1737, 1751, 1884, 1921, 2239, 2715
sequential analysis1242
sequential logic systems2246
sequential reaction1309
sharp separation2601
shear1362
shear yield stress 1700
shear-induced diffusion1362
shear-thinning liquid3117
sheet and film processes727, 1989
Sherwood number844
shrinking core2605
shrinking horizon model
predictive control2535
sieve-tray1611
sieve-tray1611 signal analysis345
sieve-tray       1611         signal analysis       345         silanol acidity       2773
sieve-tray       1611         signal analysis       345         silanol acidity       2773         silent discharge plasmas       1325
sieve-tray       1611         signal analysis       345         silanol acidity       2773         silent discharge plasmas       1325         silica       2657
sieve-tray     1611       signal analysis     345       silanol acidity     2773       silent discharge plasmas     1325       silica     2657       silica gels     761, 2785
sieve-tray       1611         signal analysis       345         silanol acidity       2773         silent discharge plasmas       1325         silica       2657         silica gels       761, 2785         silica membrane       1819
sieve-tray       1611         signal analysis       345         silanol acidity       2773         silent discharge plasmas       1325         silica       2657         silica gels       761, 2785         silica membrane       1819         silica particle       3215
sieve-tray     1611       signal analysis     345       silanol acidity     2773       silent discharge plasmas     1325       silica     2657       silica gels     761, 2785       silica membrane     1819       silica particle     3215       silicalite-1     2203
sieve-tray       1611         signal analysis       345         silanol acidity       2773         silent discharge plasmas       1325         silica       2657         silica gels       761, 2785         silica membrane       1819         silica particle       3215         silicalite-1       2203         silicates       2773, 2793
sieve-tray       1611         signal analysis       345         silanol acidity       2773         silent discharge plasmas       1325         silica       2657         silica gels       761, 2785         silica membrane       1819         silica particle       3215         silicalite-1       2203         silicates       2773, 2793         silicon carbide       2624, 2650
sieve-tray     1611       signal analysis     345       silanol acidity     2773       silent discharge plasmas     1325       silica     2657       silica gels     761, 2785       silica membrane     1819       silica particle     3215       silicalite-1     2203       silicates     2773, 2793       silicon carbide     2624, 2650       silicon nitride     2624, 2870
sieve-tray         1611           signal analysis         345           silanol acidity         2773           silent discharge plasmas         1325           silica         2657           silica gels         761, 2785           silica membrane         1819           silica particle         3215           silicalite-1         2203           silicates         2773, 2793           silicon carbide         2624, 2650           silicon nitride         2624, 2870           silicon powder         2610
sieve-tray         1611           signal analysis         345           silanol acidity         2773           silent discharge plasmas         1325           silica         2657           silica gels         761, 2785           silica membrane         1819           silica particle         3215           silicalite-1         2203           silicates         2773, 2793           silicon carbide         2624, 2650           silicon nitride         2624, 2870           silicon powder         2610           simulated annealing         3007
sieve-tray         1611           signal analysis         345           silanol acidity         2773           silent discharge plasmas         1325           silica         2657           silica gels         761, 2785           silica membrane         1819           silica particle         3215           silicalite-1         2203           silicates         2773, 2793           silicon carbide         2624, 2650           silicon nitride         2624, 2870           silicon powder         2610           simulated annealing         3007           simulated moving bed         64, 935, 2488
sieve-tray         1611           signal analysis         345           silanol acidity         2773           silent discharge plasmas         1325           silica         2657           silica gels         761, 2785           silica membrane         1819           silicalite-1         3215           silicalite-1         2203           silicates         2773, 2793           silicon carbide         2624, 2650           silicon nitride         2624, 2870           silicon powder         2610           simulated annealing         3007           simulated moving bed         64, 935, 2488           simulation         118, 218, 877,
sieve-tray         1611           signal analysis         345           silanol acidity         2773           silent discharge plasmas         1325           silica         2657           silica gels         761, 2785           silica membrane         1819           silica particle         3215           silicalite-1         2203           silicates         2773, 2793           silicon carbide         2624, 2650           silicon nitride         2624, 2870           silicon powder         2610           simulated annealing         3007           simulated moving bed         64, 935, 2488           simulation         118, 218, 877,           1032, 3241, 1653
sieve-tray         1611           signal analysis         345           silanol acidity         2773           silent discharge plasmas         1325           silica         2657           silica gels         761, 2785           silica membrane         1819           silica particle         3215           silicalite-1         2203           silicates         2773, 2793           silicon carbide         2624, 2650           silicon nitride         2624, 2870           silicon powder         2610           simulated annealing         3007           simulated moving bed         64, 935, 2488           simulation         118, 218, 877,           1032, 3241, 1653           simulation concentration
sieve-tray         1611           signal analysis         345           silanol acidity         2773           silent discharge plasmas         1325           silica         2657           silica gels         761, 2785           silica membrane         1819           silica particle         3215           silicalite-1         2203           silicates         2773, 2793           silicon carbide         2624, 2650           silicon nitride         2624, 2870           silicon powder         2610           simulated annealing         3007           simulated moving bed         64, 935, 2488           simulation         118, 218, 877,           1032, 3241, 1653
sieve-tray         1611           signal analysis         345           silanol acidity         2773           silent discharge plasmas         1325           silica         2657           silica gels         761, 2785           silica membrane         1819           silica particle         3215           silicalite-1         2203           silicates         2773, 2793           silicon carbide         2624, 2650           silicon nitride         2624, 2870           silicon powder         2610           simulated annealing         3007           simulated moving bed         64, 935, 2488           simulation         118, 218, 877,           1032, 3241, 1653           simulation concentration           profiles         2960, 2970
sieve-tray
sieve-tray         1611           signal analysis         345           silanol acidity         2773           silent discharge plasmas         1325           silica         2657           silica gels         761, 2785           silica membrane         1819           silica particle         3215           silicalite-1         2203           silicates         2773, 2793           silicon carbide         2624, 2650           silicon nitride         2624, 2870           silicor powder         2610           simulated annealing         3007           simulated moving bed         64, 935, 2488           simulation         118, 218, 877,           1032, 3241, 1653           simulation concentration         2960, 2970           simultaneous diffusion coefficient         243           simultaneous thread breakup         1649
sieve-tray         1611           signal analysis         345           silanol acidity         2773           silent discharge plasmas         1325           silica         2657           silica gels         761, 2785           silica membrane         1819           silica particle         3215           silicalite-1         2203           silicates         2773, 2793           silicon carbide         2624, 2650           silicon nitride         2624, 2870           silicor powder         2610           simulated annealing         3007           simulated moving bed         64, 935, 2488           simulation         118, 218, 877,           1032, 3241, 1653           simulation concentration         2960, 2970           simultaneous diffusion coefficient         243           simultaneous thread breakup         1649           single crystals         83
sieve-tray         1611           signal analysis         345           silanol acidity         2773           silent discharge plasmas         1325           silica         2657           silica gels         761, 2785           silica membrane         1819           silica particle         3215           silicalite-1         2203           silicon carbide         2624, 2650           silicon nitride         2624, 2870           silicon powder         2610           simulated annealing         3007           simulated moving bed         64, 935, 2488           simulation         118, 218, 877,           1032, 3241, 1653           simulation concentration         2960, 2970           simultaneous diffusion coefficient         243           simultaneous thread breakup         1649           single crystals         83           singular distributions         1529           singularity theory         2034           SiO2         1849
sieve-tray         1611           signal analysis         345           silanol acidity         2773           silent discharge plasmas         1325           silica         2657           silica gels         761, 2785           silica membrane         1819           silica particle         3215           silicalite-1         2203           silicon carbide         2624, 2650           silicon nitride         2624, 2870           silicon powder         2610           simulated annealing         3007           simulated moving bed         64, 935, 2488           simulation         118, 218, 877,           1032, 3241, 1653           simulation concentration         2960, 2970           simultaneous diffusion coefficient         243           simultaneous thread breakup         1649           single crystals         83           singular distributions         1529           singularity theory         2034           SiO2         particle generation
sieve-tray         1611           signal analysis         345           silanol acidity         2773           silent discharge plasmas         1325           silica         2657           silica gels         761, 2785           silica membrane         1819           silica particle         3215           silicalite-1         2203           silicates         2773, 2793           silicon carbide         2624, 2650           silicon nitride         2624, 2870           silicon powder         2610           simulated annealing         3007           simulated moving bed         64, 935, 2488           simulation         118, 218, 877,           1032, 3241, 1653           simulation concentration         2960, 2970           simultaneous diffusion coefficient         243           simultaneous thread breakup         1649           singular distributions         1529           singularity theory         2034           SiO2         1849           SiO2 particle generation         and deposition         2679
sieve-tray         1611           signal analysis         345           silanol acidity         2773           silent discharge plasmas         1325           silica         2657           silica gels         761, 2785           silica membrane         1819           silica particle         3215           silicalite-1         2203           silicon carbide         2624, 2650           silicon nitride         2624, 2870           silicon powder         2610           simulated annealing         3007           simulated moving bed         64, 935, 2488           simulation         118, 218, 877,           1032, 3241, 1653           simulation concentration         2960, 2970           simultaneous diffusion coefficient         243           simultaneous thread breakup         1649           single crystals         83           singular distributions         1529           singularity theory         2034           SiO2         particle generation

slabs	.615
slide coating	3133
slip velocity	.598
slit pore	1194
slug flow1637,	2180
slurry	
SMB chromatography	2488
SMB design	
smooth rod	
SO <sub>2</sub>	
soil pollution	
sol gel	2820
sol-gel processing505,	
sol-gel synthesis	
solid scintillation	
solid-liquid filtration	
solid-solid combustion	
solids processing	
solute focusing	
solution	
solution crystallization91,	1737
solution route	
solvatochromic parameters	
solvent	1925
solvent mixtures	
sorbents505,	
sorption and diffusion	2524
sparse linear equations	3193
sparse matrices	1032
spatiotemporal patterns	1519
spectroscopic imaging	409
speed	
spheroid2, 609	, 844
spray pyrolysis	
spread	.2169
sputtering	.2844
stability127, 1060, 1511,	
stabilization of reactor operation	
stably stratified flow	
standard reactor	
standing wave analysis	
stannic oxide	
state equations	
state space models	.2002
static mixers	
statistical analysis	
statistical mechanics	
statistical process monitoring	.2002
steady flow	645
steady-state multiplicity	785
stepwise elution	
stirred vessel	232
	232
stochastic analysis	.1372
stochastic analysis	273
stochastic analysisstochastic differential equations	273 877
stochastic analysisstochastic differential equationsstochastic optimization	273 877 440
stochastic analysis	273 877 440 927
stochastic analysis	273 877 440 927
stochastic analysis	1372 273 877 440 927 1426
stochastic analysis	1372 273 877 440 927 1426 265 7, 588

structural force3215
structured packings317
subspace identification2002
sulfation363, 2323
sulfur dioxide2323
superconducting oxide2865
supercritical277, 515, 847, 1287,
1627, 1717, 2343, 2359, 2944
supercritical cosolvents515
supercritical fluids277, 847, 2944
supercritical solution infiltration2359
supercritical water1287, 2343
supercritical water oxidation1627
superheated steam2889
supersonic propagation3085
surface area835
surface diffusion761, 2997
surface elasticity1909
surface science1171
surface tension3253
surfactants1436, 1569, 1909
suspension flow2405
suspensions1171, 2141, 3147
swarm844
swelling565
swelling clay1894
swimming1341
synthesis gas2741
system identification2279
tautomeric equilibrium515

## T

taxol	
tearing	3193
tee junction	1675
temporal logic	2246
ternary mixtures	212
tetralin	3105
thawing	1662
theory	
thermal conductivity	
thermal cracking	118
thermal cracking of ethane	1545
thermal decomposition	
thermal extraction	
thermal stability	
thermal unfolding	
thermo-elasticity	
thermochemistry	
thermodynamic calculation	
thermodynamic modeling	
thermodynamic properties	2215
thermodynamics283, 555	, 1605, 2153
thermogravimetric analyzer	
thermophoresis	
thickness diffusion layer	281
thin boundary-layer approxima	
thin films	

thin liquid251
three-dimensional computation3117
three-dimensional electromagnetic
field calculations2579
3-Hydroxypropanal475
titanium dioxide2571
titanium silicalite2802
toluene1325
tomography1414
total reflux971
tracer3105, 3121
tracer dispersion3121
transient fluidized-bed voidage wave625
transition control1204
transition zone260
transport limitations1091
transport modeling2948
transport phenomena946, 1426
traveling waves703, 1189
trickle bed reactors166, 1813
tritium3105
TRUEX solvent555
tube furnace reactor2679
tubes645
turbulence263, 303, 328, 853,
1390, 1426, 1458, 1641
turbulence modeling893, 1935
turbulence structure1426, 2393
turbulent convection1125
turbulent diffusion coefficient1403
turbulent dispersion1403
turbulent flow1117, 1125, 3257
turbulent jet2698
turbulent Prandtl number1125
turbulent reacting flow902
turbulent viscosity1390
twin-screw extruder2424
two phase flow1426
two-dimensional heat
and mass transfer2579

two-phase bubble	1955
two-phase flow	
two-step growth model	268

## 

### V

unfolding ......870 unsteady .....609

V <sub>2</sub> O <sub>5</sub> -WO <sub>3</sub> /TiO <sub>2</sub>	2559
vacuum	
vapor phase synthesis	
vapor-liquid equilibrium	
variable transport coefficients	
variance	
variance decay	1947
varying dielectric properties	
velocimetry	
velocity	
velocity distribution	
VII-group metal	2715
vinyl acetate process	
viscoelastic flow	
viscoelastic fluids	289
viscoelasticity	
viscometer	
viscous fingering	
viscous flow	
viscous heating	
VOCs	
VOC abatement	

void fraction	1414
void fraction profiles	2921
voidage fluctuations	1357
volume fraction	655

#### W

waste destruction	1627
water	1838, 3271
water, high temperature	2048
water purification	2571
water solubility	535
water treatment	2148
wavelets	1227
weak acid resin	2605
weak electrolytes	73
wet chemical method	
wetting	645
wetting phenomena	
Wigner distribution	345
wood	2889

### 1

YBa <sub>2</sub> Cu <sub>3</sub> O <sub>6</sub> +x	109	1
	117	

## Z

zeolite1551,	1717,	1797,	2524,	2809
zeolite membranes .		1797,	2203,	2724
zinc				2479
ZLC technique				2524
zsm-5				1797

# **TITLE INDEX TO VOLUME 43**

A	C
Additive Equivalence During Turbulent Drag Reduction3257	Carbothermally Prepared Nanophase SiC/Si <sub>3</sub> N <sub>4</sub> Composite
Analysis of Adsorption Selectivity in a One-Dimensional Model	Powders and Densified Parts2624
System2471	Catalytic and Gas-Solid Reactions involving HCN over Limestone
Analysis of Bacterial Swimming Speed Approaching a Solid-	3070
Liquid Interface1341	Centrifugal Analysis of Pivoted-Rotor Systems for Capillary Pres-
Analysis of Cake Growth in Cake Filtration: Effect of Fine Particle	sure Measurements837
Retention33	Chaotic Behavior of Fluidized Beds Based on Pressure and
Analysis of Microwave Thawing of Slabs with Effective Heat	Voidage Fluctuations1357
Capacity Method1662	Chaotic Behavior of Gas-Solids Flow in the Riser of a Laboratory-
Analysis of Nucleation and Crystal Growth Data Using the Inter-	Scale Circulating Fluidized Bed1458
facial Supersaturation268	Characteristics of High-Pressure Liquid-Solid Fluidization45
Analysis of Rate Enhancement in a Periodically Operated Trickle- Bed Reactor166	Characterization and Permeation Properties of ZSM-5 Tubular Membranes
Analysis of $\overline{v}/\kappa_{Tx}$ in Solvent Mixtures at the Critical Line277	Characterization of Hydrocarbon Systems by DBE Concept 1559
Analysis of SiO <sub>2</sub> Particle Generation and Deposition Using Tube Furnace Reactor2679	Characterization of Sputtered BZT Thin Films for MCM Multichip  Module
Analytical Description of the Lennard-Jones Fluid and its	Chemical Imaging of Multicomponent Viscous Fingering in
Application2215	Chromatography409
Application of a Control-Law Nonlinearity Measure to the Chemi-	Circulation in Bubble Columns
cal Reactor Analysis425	Clathrate Phase Equilibria for the Water-Phenol-Carbon Dioxide
Application of Almost-everywhere Singular Distributions in	System
Chemical Engineering1529	Coal Liquefaction Mechanism Using a Tritium Tracer Method
Application of Neural Networks to Mass-Transfer Predictions in a	3105
Fast Fluidized Bed of Fine Solids	Coatable Splice Process in Film Coating: A Fluid Mechanical Sta-
Asymptotic Models for H <sub>2</sub> S Absorption into Single and Blended	bility Problem
Aqueous Amines	Cocurrent Membrane Reactors vs. PFRs for Shifting Dehydrogen-
Atomic Structure of Amorphous Silicon Nitride Fibers2870	ation Equilibrium
Attainable Regions for Reaction with Separation374	Collection Efficiency Model Based on Boundary-Layer Character- istics for Cyclones
	Colloidally Induced Smectitic Fines Migration: Existence of
	Microquakes
В	Comminution of Limestone During Batch Fluidized-Bed Calci-
Batch Chemical Process Quality Control Applied to Curing of	nation and Sulfation
Composite Materials	Composite Membranes of Group VIII Metal Supported on Porous
Binomial Distribution in Multistage Extraction Processes2146	Alumina
Biofiltration of Isopentane in Peat and Compost Packed Beds	Comprehensive Kinetic Model for the Low-Temperature Oxidation
1348	of Hydrocarbons1278
Boiling Heat Transfer of Nitrogen in a Thermosyphon Condenser-	Constrained MPCI: A Weak Persistent Excitation Approach 2279
Reboiler339	Continuous Drying of a Solid Wetted with Ternary Mixtures681
Book Reviews283, 1921, 3274	Control of Continuous Copolymerization Reactors448
Breakthrough Curves for Fixed-Bed Adsorbers: Quasi-Lognormal	Control of Semicontinuous Emulsion Copolymerization Reactors
Distribution Approximation979	2021
Bridging the Gap Between Heuristics and Optimization: Capacity	Control-Oriented Modeling of Sheet and Film Processes1989
Expansion Case2289	Corrections1189, 1988
Bubble Behavior in Hydrodynamic Cavitation: Effect of	Cosolvent Tuning of Tautomeric Equilibrium in Supercritical
Turbulence	Fluids
Bubble Coalescence Dynamics2385	Coupling of Thermal Cracking with Noncatalytic Oxidative Con-
Bubble Formation at Orifice in Viscoelastic Liquids2903	version of Ethane and Ethylene1545

Covalent Grafting of Optically Active Molecules on Silica Gels	Eddy-viscosity vs. Second-Order Closures for Flows in
2820	Noncircular Ducts893
Crystal Growth Rate Enhancement Caused by Adhesion of Small	Effect of Catalyst Distribution in a Membrane Reactor:
Crystal Unfolding and Chain Disentanglement During Semicrys-	Experiments and Model
talline Polymer Dissolution870	Effect of Dissociation Equilibria on Ion-Exchange Processes of
Crystallization of Nanosized Silicon Powder Prepared by Plasma-	Weak Electrolytes73
Induced Clustering Reactions	Effect of Inlet Conditions on Scalar Statistics in Pipe
Crystallization Process Optimization via a Revised Machine	Mixing
Learning Methodology	Chromatography
Potential Fields811	Effect of the Membrane Activity on the Performance of a
	Catalytic Membrane Reactor3095
	Effects of H <sub>2</sub> O on the Particle Size in the Vapor-Phase Synthesis of
D	TiO <sub>2</sub>
Darcy Constant for Multisized Spheres with No Arbitrary	Mixer Performance
Constant835	Effects of Operating Conditions on Heat Removal from Polyethyl-
Deflagration and Detonation in Solid-Solid Combustion3085	ene Reactors
Degradation Kinetics of Polymers in Solution: Dynamics of Mole- cular Weight Distributions802	Effects of Particle-Phase Turbulence in Gas-Solid Flows853
Dehydrogenation of Propane Using a Packed-Bed Catalytic Mem-	Efficient High-Pressure State Equations
brane Reactor	Efficient Sampling Technique for Optimization under Uncertainty
Dense Perovskite Membrane Reactors for Partial Oxidation of	Effluent Concentration Profiles in Centrifugal Partition
Methane to Syngas	Chromatography693
Design Analysis for Refolding Monomeric Protein	Electrochemically Modulated Complexation Process for Ethylene/
Design and Retrofit of Sensor Networks in Process Plants2300  Design Procedure for Stable Operations of First-Order Reaction	Ethane Separation 1709
Systems in a CSTR1060	Electrostatic Partitioning in Slit Pores by Gibbs Ensemble Monte Carlo Simulation
Destruction and Removal of Toluene and MEK from Gas Streams	Enhanced SO <sub>2</sub> Abatement with Water-Hydrated Dolomitic
with Silent Discharge Plasmas1325	Particles
Detecting Persistent Gross Errors by Sequential Analysis of Principal Components	Equilibrium and Kinetics of n-Hexane Sorption in Pellets of 5A
Development of Fine-Scale Piezoelectric Composites for Trans-	Zeolite
ducers	Estimating Radial Velocity of Fixed Beds with Low Tube-to-
Development of Morphology in Blends of Immiscible	Particle Diameter Ratios
Polymers	Estimation of Nonlinear Systems Using Multiple Models1204
Pseudomonas putida	Evaluation of Gas-Solids Mixing Chamber through Cross
Diffusion of Proteins and Nonionic Micelles in Agarose Gels by	Correlation and Hurst's Analysis
Holographic Interferometry25	Size Press
Digital Particle Imaging Velocimetry of Viscoelastic Fluids289	Experimental Study of the Influence of the Flow Rates in SMB
Distribution Kinetics of Radical Mechanisms: Reversible Polymer Decomposition3205	Chromatography2970
Drag Coefficient and Velocity of Rise of a Single Collapsing Two-	Experimental Study on Wetting of Fibers with Non-Newtonian
Phase Bubble1955	Liquids1579 Explicit Algebraic Scalar-Flux Models for Turbulent Reacting
Dynamic Adsorption and Tension of Nonionic Binary Surfactant	Flows
Mixtures 1569	Extracting Effective Diffusion Parameters from Drying
Dynamic Modeling for Simulation and Control of a Circulating Fluidized-Bed Combustor1141	Experiments1925
Dynamics of Foam Films in Constricted Pores3241	Extraction of Nitric Acid from Aqueous Media with OøD(iB)
Dynamics of Semibatch Polymerization Reactors: II. Pilot-Plant	CMPO-n-Dodecane555
Study157	
Dynamics of Semibatch Polymerization Reactors: I. Theoretical	F
Analysis	Fabrication of Conductometric Gas-Sensing Films by Selected
Method	Area Chemical-Vapor Deposition2760
	Film Profiles Behind Liquid Slugs in Gas-Liquid Pipe
	Filow
E	Finite-Element Simulation of Mixing: 1. Two-Dimensional Flow in
Editorial	Periodic Geometry577

Finite-Element Simulation of Mixing: 2. Three-Dimensional Flow	Hydrodynamics of Soil Immobilization in the Immobilized Soil
Through a Kenics Mixer588 First-Order Closure Theories for Series-Parallel Reaction in Simu-	Bioreactor
lated Homogeneous Turbulence902	Hydrogen Peroxide Decomposition in Supercritical Water2343
Flow Pattern Transition Maps for Microgravity Two-Phase	Identification of Full Profile Disturbance Models for Sheet Form-
Flows	ing Processes727
Fluorescence Capillary Photometry for Characterization of	
Liquid–Liquid Dispersions	1
Formation of Particle Agglomerates after Switching Fluidizing	IMA Chromatography of a Cell Extract: Effect of Loading pH on
Gases	Protein Purification3232
Forsterite Powder Prepared from Water-Soluble Hybrid	Implicit Model Checking of Logic-Based Control Systems2246
Precursor	Improved Method for Determining Rheological Parameters of Sus-
Fractal-Like Behavior of a Mass-Transport Process2187	pensions2141
Froth Reactor for Small-Scale Generation of Chlorine	Improved NLO Properties through a Liquid Crystal Phase Poling
Dioxide2148	2827
FTIR Method for VLE Measurements of Acid-Gas-Alkanolamine	Improving Clay-Based Tailings Disposal: Case Study on Coal Tail-
Systems3223	ings1894
Fugacity Coefficients for Free Radicals in Dense Fluids: HO2 in	In-Situ CIR-FTIR Study of the Diffusion of Supercritical Hydro-
Supercritical Water1287	carbons in Zeolite L1717
Fundamental Continuous-Pulp-Digester Model for Simulation and	In-Situ Densification of Combustion Synthesized Coatings2751
Control3175	Inference in Dynamic Error-in-Variable-Measurement Problems
	986
G	Influence of Dynamic Interfacial Properties on Droplet Breakup in
· ·	Plane Hyperbolic Flow
Gas Holdup in Slurry Bubble Columns: Effects of Column	Influence of Particle-Size Distribution on Entrainment Solid Rate
Diameter and Slurry Concentrations311	in Fluidized Bed
Gas Permeation through Zeolite-Alumina Composite Membranes	Initial and Final Stages of Compressible Filtercake
	Compaction1488 Initial Deposition of Interacting Particles by Filtration of Dilute
Gas-Filled Cavity Structures and Local Void Fraction Distribution	Suspensions946
in Aerated Stirred Vessel2921	Inorganic and Organically Modified Rare-Earth-Doped Silica
Gas-Holdup Measurements in Bubble Columns Using Computed	Gels
Tomography	Integral Approach to Plant Linear Dynamic Reconciliation2546
Gas-Liquid Flow through Horizontal Tees of Branching and Impacting Type	Integrated Flexibility and Controllability Analysis in Design of
1 0 71	Chemical Processes997
	Intensity of Segregation Revisited263
APCVD Process	Intraparticle Diffusion in Hydrogenation of
Liquid Flow Rates	3-Hydroxypropanal475
Generalized Approach to NMR Analysis of Flow and Dispersion in	Intrazeolite Nanocomposite Catalysts: Co-Mo Sulfides for
Porous Media	Hydrodesulfurization2809
Generation of Unagglomerated, Dense, BaTiO <sub>3</sub> Particles by	Ion Exchange in Weak Acid Resin: Diffusion in Shrinking
Flame-Spray Pyrolysis	Core
Global Preordering for Newton Equations Using Model Hierarchy	Isotope Exchange Technique for Measurement of Gas Adsorption
3193	Equilibria and Kinetics2456
Granulation of Sol-Gel-Derived Nanostructured Alumina505	
Growth Behavior of Pulsed-Laser-Deposited PLZTO Thin Films	K
2857	Kinetic Study of Acrylic Acid Solution Polymerization135
	Kinetic Study of Actylic Acid Solution Polymerization
17	Oxidation
H	Kinetics of Hydrocarbon Adsorption on Activated Carbon and
High-Pressure Three-Phase Fluidization: Hydrodynamics and Heat	Silica Gel
Transfer2432	
High-Energy Density Storage of Natural Gas in Light Hydrocar-	L
bon Solutions1108	
High-Purity Nitrogen by Pressure-Swing Adsorption419	La-Ni-Oxide Films, Fibers and Powders by La(MOE) <sub>3</sub> -Ni(acac) <sub>2</sub>
High-Temperature Catalyst Supports and Ceramic Membranes:	Precursors
Metastability and Particle Packing2710	Lagrangian Simulation of Turbulent Particle Dispersion in Electro-
High-Temperature Kinetics of Si-Containing Precursors for	static Precipitators1403
Ceramic Processing2670	Letter to the Editor281, 1372
Hurst's Analysis to Detect Minimum Fluidization and Gas Maldis-	LP Methods in MPC of Large-Scale Systems: Application to
tribution in Fluidized Beds	Paper-Machine CD Control1016

Macro- and Microscopic Fluid Transport in Living Tissuss: Application to Solid Tumors.  All Macro- and Microscopic Fluid Transport in Living Tissuss: Application to Solid Tumors.  All Macro- and Microscopic Fluid Transport in Living Tissuss: Application to Solid Tumors.  All Macro- and Microscopic Fluid Transport in Living Tissuss: Application of Solid Tumors.  All Macro- and Microscopic Fluid Transport in Living Tissuss: Application of Solid Tumors.  All Macro- and Microscopic Fluid Transport in Living Tissuss: Application of Solid Tumors.  All Macro- and Microscopic Fluid Transport in Living Tissuss: Application of Solid Tumors.  Macro- and Microscopic Fluid Transport in Living Tissuss: Application of Solid Tumors.  Macro- and Microscopic Fluid Transport in Living Tissuss: Application of Solid Tumors.  Macro- and Microscopic Fluid Transport in Living Tissuss: Application of Solid Theory.  All Mass and Thermal Transport analysis of Oscillating Flow with Absorbert Folymers.  All Mass and Thermal Transport Analysis of Oscillating Flow with Absorbert Floymers.  All Mathematical Model of a Pneumatic Conveying Dryer.  All Machanism Reduction during Computer Generation of Co	Lubricant Characterization by Molecular Simulation3260	Molecular Thermodynamics of Heat-Induced Protein Unfolding in
Macro- and Microscopic Fluid Transport in Living Tissues: Application to Solid Tumors.  8.18 Macro-porous Ceramics from Ceramic-Polymer Dispersion Methods Reverse-Flow Reactor  2034 Mass and Thermal Transport analysis of Oscillating Flow with Absorbant Polymers  8.275 Mass Transfer Based on Chemical Potential Theory:  7.285/Mass and Thermal Transport Analysis of Oscillating Flow with Absorbant Polymers  8.275 Mass Transfer Based on Chemical Potential Theory:  8.2878 Massuer of Closed-Loop Nonlinearity and Interaction for Nonlinear Chemical Processes  2.2619 Massuered of Closed-Loop Nonlinearity and Interaction for Nonlinear Chemical Processes  2.2618 Measurement Oldes-Loop Nonlinearity and Interaction for Nonlinear Chemical Processes  2.2618 Measurement Old Ultrasonic Forces for Particle-Liquid Separations  Michaustream of Velocity Profiles in Reverse-Screw Elements of a Twin-Screw Estruder  Recation Models  8.2878 Mechanisms of Initiation of Incrustation  1.200 Mechanisms of Initiation of Incrustation  1.201 Mechanisms of Initiation of Incrustation  1.202 Mechanisms of Initiation of Incrustation  1.203 Mechanisms of Initiation of Incrustation  1.204 Mechanisms of Initiation of Incrustation  1.204 Mechanisms of Initiation of Incrustation  1.205 Mechanisms of Initiation of Incrustation  1.206 Mechanisms of Initiation of Incrustation  1.207 Mechanisms of Initiation of Incrustation  1.208 Micromachine Reactors for Catalytic Partial Oxidation  Reactions  8.207 Modeling and Control of Multivariable Processes: Dynamic PLIS  Approach  1.207 Modeling and Control of Multivariable Processes: Dynamic PLIS  Approach  1.207 Modeling and Optimization of Sesse regenerative Catalytic Napha Reformer.  1.207 Modeling and Optimization of Sesse regenerative Catalytic Napha Reformer.  1.207 Modeling and Optimization of Sesse regenerative Catalytic Napha Reformers.  1.207 Modeling and Safety Verification of Discrete/Continuous Processes: Systems.  1.207 Modeling and Safety Verification of Discrete/Continuous Processes Systems.  1.20	Lumen Mass Transfer in Hollow-Fiber Membrane Processes with	Aqueous Media525
Macro- and Microscopic Fluid Transport in Living Tissues: Application to Solid Tumors of Ceramics From Ceramic-Polymer Dispersion Methods.  Macroproros Ceramics from Ceramic-Polymer Dispersion Methods.  Mapping Regions with Different Bifurcation Diagrams of a Reverse-Flow Reactor.  Mass and Thernal Transport Analysis of Oscillating Flow with Absorbent Polymers.  Mass Transfer Based on Chemical Potential Theory: ZaSOyHt,SOyD,EHPA.  Machematical Model of a Pneumatic Conveying Dryer.  Mass Transfer Based on Chemical Potential Theory: ZaSOyHt,SOyD,EHPA.  Machamistic Proficial Processes.  Mechanism Commonic Forces for Particle-Liquid Separations.  Methods.  Mark Transfer Based on Chemical Potential Theory: Machanistic Proficial Processes.  Mark Twin Screw Extruder.  Machanistic Pressure Drop Model of Sapuration of Catalytic Profiles in Reverse-Screw Elements of a Twin-Screw Extruder.  Machanistic Pressure Drop Model for Columns Containing Structured Packings.  Mark Measurements and Numerical Simulation of Fluid Transport in Provas Solids.  Machanistic Pressure Drop Model for Columns Containing Structured Packings.  Mark Measurements and Numerical Simulation of Fluid Transport in Provas Solids.  Nanciformachined Reactors for Catalytic Partial Oxidation Reactions.  Mark Measurements and Numerical Simulation of Fluid Transport in Provas Solids.  Nanciformachined Reactors for Catalytic Partial Oxidation Reaction by Phase-Transfer Catalysis.  Mark Measurements and Numerical Simulation of Fluid Transport in Provas Solids.  Nanciformachined Reactors for Catalytic Partial Oxidation Reaction by Phase-Transfer Catalysis.  Modeling and Control of Multivariable Processes: Dynamic PLS Approach.  Markeformer.  Modeling and Experimental Study of a Sequenti	Constant External Resistances1975	
Macro- and Microscopic Fluid Transport in Living Tissues: Application to Solid Tumors  818 Macroprous Ceramics From Ceramic-Polymer Dispersion Methods  8287 Mapping Regions with Different Bifurcation Diagrams of a Reverse-Flow Reactor  2034 Mass and Thermal Transport Analysis of Oscillating Flow with Absorbent Polymers  2157 Mass Transfer Based on Chemical Potential Theory: Assorbent Polymers  2157 Mass Transfer Based on Chemical Potential Theory: Assorbent Polymers  2157 Mass Transfer Based on Chemical Potential Theory: Assorbent Polymers  2167 Measurement Closed-Loop Nonlinearity and Interaction for Nonlinear Chemical Processes  2261 Measurement Of Ultrasonic Forces for Particle-Liquid Separations  Michanism Reduction during Computer Generation of Compact Reaction Models  Mechanisms of Initiation of Incrustation  1300 Mechanisms Fessure Drop Model for Columns Containing Structured Packings  Michanisms of Initiation of Incrustation  Reactions  Michanisms of Initiation of Incrustation  Reactions  Michanisms of Polymers  1090 Modeling and Sperimental Study of a Sequential Phosphazone Reaction by Phass-Transfer Catalytic Partial Oxidation  Reactions  1809 Modeling and Experimental Study of a Sequential Phosphazone Reaction by Phass-Transfer Catalysis  1809 Modeling and Experimental Study of a Sequential Phosphazone Reaction by Phass-Transfer Catalysis  1809 Modeling and Experimental Study of a Sequential Phosphazone Reaction by Phass-Transfer Catalysis  1809 Modeling and Sufery Verification of Discrete/Continuous Processing Systems  1809 Modeling and Safety Verification of Discrete/Continuous Processing Systems  1809 Modeling and Solidation of Discrete/Continuous Processing Systems  1809 Modeling and Forematial Study of a Sequential Phosphazone Reaction by Phass-Transfer Catalysis  1809 Modeling and Singer Polymanic Study of Solidation of Discrete/Continuous Processing Systems  1809 Modeling and Safety Verification of Discrete/Continuous Processing Systems  1809 Modeling and Control of Multivariable Processes: Dy		
cation to Solidi Tumors  all Macroporous Ceramics From Ceramic-Polymer Dispersion Methods  2878 Mapping Regions with Different Bifurcation Diagrams of a Reverse-Flow Reactor  2044 Mass and Thermal Transport Analysis of Oscillating Flow with Absorbent Polymers  2157 Mass Transfer Based on Chemical Potential Theory:  2757 Mash Transfer Based on Chemical Potential Theory:  2758 Measurenent of Closed-Loop Nonlinearity and Interaction for Nonlinear Chemical Processes.  2261 Measurement of Ultrasonic Forces for Particle-Liquid Separations.  2777 Measurement of Velocity Profiles in Reverse-Screw Elements of a Twin-Screw Extruder.  2784 Mechanism Reduction during Computer Generation of Compact Reaction Models.  2785 Mechanisms of Initiation of Incrustation.  2796 Microwave Drying of Softwood in an Oversized Waveguide: Theory and Experiment Study of a Sequential Phosphazene Reaction by Phase-Transfer Catalytic Partial Osidation  2797 Modeling and Generic Mixing and Its Effects on Postymer Properties.  2797 Modeling and Experimental Study of a Sequential Phosphazene Reaction by Phase-Transfer Catalytic Partial Osidation  2797 Modeling and Experimental Study of a Sequential Phosphazene Reaction by Phase-Transfer Catalytic Partial Osidation  2797 Modeling and Sperification of Discrete/Continuous Processing Systems.  2797 Modeling and Sperimental Study of a Sequential Phosphazene Reaction by Phase-Transfer Catalytic Partial Osidation  2798 Modeling and Experimental Study of a Sequential Phosphazene Reaction by Phase-Transfer Catalytic Partial Osidation  2797 Modeling and Experimental Study of a Sequential Phosphazene Reaction by Phase-Transfer Catalytic Partial Osidation Reactor of Semipath Phosphazene Reaction by Phase-Transfer Catalytic Partial Os	M	Prediction388
Macroporous Ceramics from Ceramic-Polymer Dispersion Methods.  Mapping Regions with Different Bifurcation Diagrams of a Reverse-Flow Reactor and Monolith Formation.  Multivessel Batch Distillation.  971 Mutual Solubilities of Hydrocarbons and Water: III. 1-Hexene. 1-Octene, Cig-Cig-Hydrocarbons and Water: III. 1-Hexene. 1-Octene, Cig-Cig-Hydrocarb	Macro- and Microscopic Fluid Transport in Living Tissues: Appli-	
Methods. 971 Mapping Regions with Different Bifurcation Diagrams of a Reverse-Flow Reactor		Heterogeneous Reactors
Mapping Regions with Different Bifurcation Diagrams of a Reverse-Flow Reactor — 2034 Mass and Thermal Transport Analysis of Oscillating Flow with Absorbent Polymers — 2157 Mass Transfer Based on Chemical Potential Theory: ZnSO <sub>2</sub> /M <sub>2</sub> SO <sub>2</sub> /M <sub>2</sub> FBPA — 2479 Mahematical Model of a Pneumatic Conveying Dryer. 2889 Measure of Closed-Loop Nonlinearity and Interaction for Nonlinear Chemical Processes — 2261 Measurement of Ultrasonic Forces for Particle—Liquid Separations. — 1727 Measurement of Velocity Profiles in Reverse-Screw Elements of a Twin-Screw Extruder — 2424 Mechanisms Reduction during Computer Generation of Compact Reaction Models — 1828 Mechanisms of Initiation of Incrustation — 1300 Mechanistic Pressure Drop Model for Columns Containing Structured Packings — 1828 Micromachined Reactors for Catalytic Partial Oxidation Reactions — 3059 Microwave Heating of the Continuous Flow Catalytic Reactor in a Nonuniform Electric Field. — 754 Minimum Liquid Fluidization Velocity in Gas-Liquid-Solid Fluidization Velocity in Gas-Liqu	Macroporous Ceramics from Ceramic-Polymer Dispersion	
Reverse-Flow Reactor 2034  Mass and Thermal Transport Analysis of Oscillating Flow with Absorbent Polymers 2157  Mass Transfer Based on Chemical Potential Theory: 2750/H <sub>2</sub> 50/D <sub>2</sub> EHPA 2479  Mathematical Model of a Pneumatic Conveying Dryer. 2889  Measure of Closed-Loop Nonlinearity and Interaction for Nonlinear Chemical Processes. 2261  Measurement of Ultrasonic Forces for Particle-Liquid Separations. 2014  Mesparations. 2015  Mesurement of Velocity Profiles in Reverse-Screw Elements of a Twin-Screw Extruder 2424  Mechanism Reduction during Computer Generation of Compact Reaction Models. 1828  Mechanisms of Initiation of Incrustation 1300  Mechanistic Pressure Drop Model for Columns Containing Structured Packings 1828  Mechanism of Initiation of Incrustation 1300  Mechanistic Pressure Drop Model for Columns Containing Structured Packings 1828  Micromachined Reactors for Catalytic CSTR to Stabilize Intermediate Steady State 2785  Micromachined Reactors for Catalytic Partial Oxidation Reactor 1829  Microwave Drying of Softwood in an Oversized Waveguide: Theory and Experiment 1820  Model for Surface Diffusion in Liquid-Phase Adsorption A. 2997  Modeling and Control of Multivariable Processes: Dynamic PLS Approach 2839  Modeling and Control of Multivariable Processes: Dynamic PLS Approach 2839  Modeling and Control of Multivariable Processes: Dynamic PLS Approach 2839  Modeling of Imperfect Mixing and Its Effects on Polymer Properties 1849  Modeling of Imperfect Mixing and Its Effects on Polymer Properties 1849  Modeling of Imperfect Mixing and Its Effects on Polymer Properties 1849  Modeling of Imperfect Mixing and Its Effects on Polymer Properties 2156  Modeling of Soft, Deposition in Porous Vycor: Effects of Pore Network Connectivity 1849  Modeling of Tone Placked Beds from Pore-Scale Fluid Mechanics 1849  Modeling of Imperfect Mixing and Its Effects on Polymer Properties 1849  Modeling of Imperfect Mixing and Its Effects on Polymer Properties 1849  Modeling of Imperfect Mixing and Its Effects on Polymer Propert		
Mass and Thermal Transport Analysis of Oscillating Flow with Absorbent Polymers	11 0 0	
Absorbent Polymers		1 000000, 010 012 1190000000000000000000000000000
Mass Transfer Based on Chemical Potential Theory: ZASOJH <sub>2</sub> SOJD <sub>2</sub> EHPA. 2479 Mathematical Model of a Pneumatic Conveying Dryer		
Annoparticle Synthesis of Titanium Silicalite for Fiber, Film, and Mathematical Model of a Preumatic Conveying Dryer. 2889 Measure of Closed-Loop Nonlinearity and Interaction for Nonlinear Chemical Processes . 2261 Measurement of Velocity Profiles in Reverse-Screw Elements of a Twin-Screw Extruder . 2424 Mechanism Reduction during Computer Generation of Compact Reaction Models 1828 Mechanisms of Initiation of Incrustation		N
Mathematical Model of a Pneumatic Conveying Dryer. —2889 Measure of Closed-Loop Nonlinearity and Interaction for Nonlinear Chemical Processes. —2261 Measurement of Ulrasonic Forces for Particle-Liquid Separations. —1727 Measurement of Velocity Profiles in Reverse-Screw Elements of a Twin-Screw Extruder. —2424 Mechanism Reduction during Computer Generation of Compact Reaction Models. —1828 Mechanisms Reduction during Computer Generation of Compact Reaction Models. —1828 Mechanisms of Initiation of Incrustation. —1300 Mechanistic Pressure Drop Model for Columns Containing Structured Packings. —1317 Mediating Operation of Catalytic CSTR to Stabilize Intermediate Steady State. —1858 Micromachined Reactors for Catalytic Partial Oxidation Reactions. —1859 Microwave Drying of Softwood in an Oversized Waveguid: Theory and Experiment —2579 Microwave Drying of Softwood in an Oversized Waveguid: Theory and Experiment —2579 Microwave Drying of Softwood in an Oversized Waveguid: Theory and Experiment —2579 Microwave Drying of Softwood in an Oversized Waveguid: Theory and Experiment —2579 Microwave Drying of Softwood in an Oversized Waveguid: Theory and Experiment —2579 Microwave Drying of Softwood in an Oversized Waveguid: Theory and Experiment —2579 Microwave Drying of Softwood in an Oversized Waveguid: Theory and Experiment —2579 Microwave Drying of Softwood in an Oversized Waveguid: Theory and Experiment —2579 Microwave Drying of Softwood in an Oversized Waveguid: Theory of the Continuous Flow Catalytic Reactor in a Nonuniform Electric Field. —754 Minimum Liquid Fluidization Velocity in Gas-Liquid-Solid Fluidized Beds —1180 Modeling and Experimental Study of a Sequential Phosphazene Reaction by Phase-Transfer Catalysis —1180 Modeling and Control of Multivariable Processes: Dynamic Properties —1265 Modeling of SiO, Deposition in Porous Vycor: Effects on Polytore Properties —1265 Modeling of SiO, Deposition in Porous Vycor: Effects of Pore Network Connectivity —1270 Modeling and Control of SiO, Deposition in Porous Vycor:	Mass Transfer Based on Chemical Potential Theory:	
Measure of Closed-Loop Nonlinearity and Interaction for Nonlinear Chemical Processes 2261 Nonlinear Chemical Processes 2261 Measurement of Ultrasonic Forces for Particle-Liquid Separations		
Nonlinear Chemical Processes — 2261 Measurement of Ultrasonic Forces for Particle-Liquid Separations		
Measurement of Ultrasonic Forces for Particle-Liquid Separations		
Separations		
Measurement of Velocity Profiles in Reverse-Screw Elements of a Twin-Screw Extruder		*
Twin-Screw Extruder. 2424 Mechanism Reduction during Computer Generation of Compact Reaction Models. 1828 Mechanism of Initiation of Incrustation 1300 Mechanistic Pressure Drop Model for Columns Containing Structured Packings 7785 Micromachined Reactors for Catalytic Partial Oxidation Reactions 785 Micromachined Reactors for Catalytic Partial Oxidation Reactions 795 Microwave Drying of Softwood in an Oversized Waveguide: Theory and Experiment 2579 Microwave Heating of the Continuous Flow Catalytic Reactor in a Nonuniform Electric Field. 2579 Minimum Liquid Fluidization Velocity in Gas-Liquid-Solid Fluidized Beds 1180 Model for Surface Diffusion in Liquid-Phase Adsorption, A 2997 Modeling and Control of Multivariable Processes: Dynamic PLS Approach 2307 Modeling and Dytimization of a Sessiregenerative Catalytic Naphtha Reformer 740 Modeling and Optimization of a Sessiregenerative Catalytic Naphtha Reformer 740 Modeling and Safety Verification of Discrete/Continuous Processing Systems. 1041 Modeling of Imperfect Mixing and Its Effects on Polymer Properties 1265 Modeling of SiO <sub>2</sub> Deposition in Porous Vycor: Effects of Pore Network Connectivity 1849 Modeling Flow in Disordered Packed Beds from Pore Scale Fluid Mechanics 1265 Modeling of SiO <sub>2</sub> Deposition in Porous Vycor: Effects of Pore Network Connectivity 1849 Modeling Flow in Disordered Packed Beds from Pore Scale Fluid Medicacino of Frenkel's Model for Sintering 2325 Modeling of SiO <sub>2</sub> Deposition in Porous Vycor: Effects of Pore Network Connectivity 1849 Modeling Flow in Disordered Packed Beds from Pore Scale Fluid Medicacino of Frenkel's Model for Sintering 2325 Modeling of SiO <sub>2</sub> Deposition in Porous Vycor: Effects of Pore Network Connectivity 1849 Modeling Flow in Disordered Packed Beds from Pore Scale Fluid Medicacino of Frenkel's Model for Sintering 2325 Modeling of SiO <sub>2</sub> Deposition in Porous Vycor: Effects of Pore Network Connectivity 2325 Modeling of SiO <sub>2</sub> Deposition in Porous Vycor: Effects of Pore Network Connectivity 2325 Modeling of SiO <sub>2</sub> Deposit		
Mechanism Reduction during Computer Generation of Compact Reaction Models	The state of the s	
Reaction Models		
Mechanisms of Initiation of Incrustation		
Mechanistic Pressure Drop Model for Columns Containing Structured Packings		
Modeling and Control of Multivariable Processes: Dynamic PLS Approach Reaction of Phase-Transfer Catalysis.  1309 Modeling and Control of Multivariable Processes: Dynamic PLS Approach Reaction of Phase-Transfer Catalysis.  1309 Modeling and Optimization of a Septiregenerative Catalytic Naphtha Reformer Reaction of Discrete/Continuous Processes in gystems.  1309 Modeling of Imperfect Mixing and Its Effects on Polymer Properties.  1307 Modeling of Imperfect Mixing and Its Effects on Polymer Properties.  1307 Modeling of Fressure Fluctuations via Correlation Structure in a Gas-Solids Fluidized Bed Modeling Fressure Fluctuations via Correlation Structure in a Gas-Solids Fluidized Bed Modeling of Fressure Fluctuations via Correlation Structure in a Gas-Solids Fluidized Bed Modeling of Fressure Fluctuations via Correlation Structure in a Gas-Solids Fluidized Bed Modeling of Fressure Fluctuations via Correlation Structure in a Gas-Solids Fluidized Bed Modification of Frenkel's Model for Sintering.  2310 Modeling Opposition in Proposition in Propos		
Mediating Operation of Catalytic CSTR to Stabilize Intermediate Steady State		
Steady State. 785 Micromachined Reactors for Catalytic Partial Oxidation Reactions 3059 Microwave Drying of Softwood in an Oversized Waveguide: Theory and Experiment 2579 Microwave Heating of the Continuous Flow Catalytic Reactor in a Nonuniform Electric Field. 754 Minimum Liquid Fluidization Velocity in Gas-Liquid-Solid Fluidized Beds 1180 Model for Surface Diffusion in Liquid-Phase Adsorption, A. 2997 Modeling and Control of Multivariable Processes: Dynamic PLS Approach 2307 Modeling and Experimental Study of a Sequential Phosphazene Reaction by Phase-Transfer Catalysis 1309 Modeling and Safety Verification of Discrete/Continuous Processing Systems 1041 Modeling Flow in Disordered Packed Beds from Pore-Scale Fluid Mechanics 1377 Modeling of Imperfect Mixing and Its Effects on Polymer Properties 1265 Modeling of SoiO <sub>2</sub> Deposition in Porous Vycor: Effects of Pore Network Connectivity 1849 Modeling Pressure Fluctuations via Correlation Structure in a Gas-Solids Fluidized Bed 1914 Modification of Frenkel's Model for Sintering 3253 Moisture Transport in Shrinking Gels During Saturated Drying 2112 Drying 2112 Drying 2596 Novel Swirl-Flow Reactor for Kinetic Studies of Semiconductor Photocatalysis 2571 Nuclear-Magnetic-Resonance-Imaging-Based Capillary Recometer 2596 Numerical Analysis and Data Comparison of a Supercritical Water Oxidation Reactor 2000 Numerical Analysis and Data Comparison of a Supercritical Water Oxidation Reactor 2016 Numerical Analysis and Data Comparison of a Supercritical Water Oxidation Reactor 2016 Numerical Analysis and Data Comparison of a Supercritical Water 2016 Oxidation Reactor		
Micromachined Reactors for Catalytic Partial Oxidation Reactions		
Reactions		
Microwave Heating of the Continuous Flow Catalytic Reactor in a Nonuniform Electric Field	· · · · · · · · · · · · · · · · · · ·	
Microwave Heating of the Continuous Flow Catalytic Reactor in a Nonuniform Electric Field. 754 Minimum Liquid Fluidization Velocity in Gas-Liquid-Solid Fluidized Beds 1180 Model for Surface Diffusion in Liquid-Phase Adsorption, A .2997 Modeling and Control of Multivariable Processes: Dynamic PLS Approach 2307 Modeling and Experimental Study of a Sequential Phosphazene Reaction by Phase-Transfer Catalysis 1309 Modeling and Optimization of a Sew irregenerative Catalytic Naphtha Reformer 740 Modeling and Safety Verification of Discrete/Continuous Processing Systems 1041 Modeling Flow in Disordered Packed Beds from Pore-Scale Fluid Mechanics 1377 Modeling of Imperfect Mixing and Its Effects on Polymer Properties 1265 Modeling of SiO <sub>2</sub> Deposition in Porous Vycor: Effects of Pore Network Connectivity 1849 Modeling Pressure Fluctuations via Correlation Structure in a Gassolids Fluidized Bed 1914 Modification of Frenkel's Model for Sintering 3253 Moisture Transport in Shrinking Gels During Saturated Drying 2112 Molecular Dynamics Study of Epitaxial Growth and Cluster Formation on MgO(001) 2765  Mouniform Electric Field 754 Numerical Analysis and Data Comparison of a Supercritical Water Oxidation Reactor 1627 Numerical Analysis and Data Comparison of a Supercritical Water Oxidation Reactor 1627 Numerical Analysis and Data Comparison of a Supercritical Water Oxidation Reactor 1627 Numerical Analysis and Data Comparison of a Supercritical Water Oxidation Reactor 1627 Numerical Analysis and Data Comparison of a Supercritical Water Oxidation Reactor 1627 Numerical Analysis and Data Comparison of a Supercrite lamine 1100  Validation Reactor 1627 Numerical Analysis and Data Comparison of a Nemogenizer Impinging Jet 1100  Voil-Assisted Agglomeration for Toner Deinking: Population Balance Model and Experiments 1480 On-Line Control of a Semibatch Emulsion Polymerization Reactor 1069 On-Line Roactor 1265 On-Line Nonlinear Model-Based	Microwave Drying of Softwood in an Oversized Waveguide: The-	
Microwave Heating of the Continuous Flow Catalytic Reactor in a Nonuniform Electric Field		
Nonuniform Electric Field	Microwave Heating of the Continuous Flow Catalytic Reactor in a	· · · · · · · · · · · · · · · · · · ·
Minimum Liquid Fluidization Velocity in Gas-Liquid-Solid Fluidized Beds	Nonuniform Electric Field754	
Modeling and Control of Multivariable Processes: Dynamic PLS Approach	Minimum Liquid Fluidization Velocity in Gas-Liquid-Solid Flu-	
Modeling and Control of Multivariable Processes: Dynamic PLS Approach	idized Beds1180	
Approach	Model for Surface Diffusion in Liquid-Phase Adsorption, A2997	
Approach Modeling and Experimental Study of a Sequential Phosphazene Reaction by Phase-Transfer Catalysis 1309 Modeling and Optimizaton of a Sewiregenerative Catalytic Naphtha Reformer 740 Modeling and Safety Verification of Discrete/Continuous Processing Systems 1041 Modeling Flow in Disordered Packed Beds from Pore-Scale Fluid Mechanics 1377 Modeling of Imperfect Mixing and Its Effects on Polymer Properties 1265 Modeling of SiO <sub>2</sub> Deposition in Porous Vycor: Effects of Pore Network Connectivity 1849 Modeling Pressure Fluctuations via Correlation Structure in a GasSolids Fluidized Bed 1944 Modification of Frenkel's Model for Sintering 3253 Moisture Transport in Shrinking Gels During Saturated Drying 1950 Drying 1970	Modeling and Control of Multivariable Processes: Dynamic PLS	0
Reaction by Phase-Transfer Catalysis		
Modeling and Optimizaton of a Sexiregenerative Catalytic Naphtha Reformer		
tha Reformer		
Modeling and Safety Verification of Discrete/Continuous Processing Systems		
ing Systems		
Modeling Flow in Disordered Packed Beds from Pore-Scale Fluid Mechanics		
Mechanics 1377 Modeling of Imperfect Mixing and Its Effects on Polymer Properties 1265 Modeling of SiO <sub>2</sub> Deposition in Porous Vycor: Effects of Pore Network Connectivity 1849 Modeling Pressure Fluctuations via Correlation Structure in a Gas—Solids Fluidized Bed 1914 Modification of Frenkel's Model for Sintering 2984 Modification of Frenkel's Model for Sintering 2112 Molecular Dynamics Study of Epitaxial Growth and Cluster Formation on MgO(001) 2765  Modeling of Imperfect Mixing and Its Effects on Polymer Properties 2126  Optimal Alarm Logic Design for Mass-Flow Networks 3021  Optimal Molecular Design ûnder Property Prediction  Uncertainty 50  Optimal Alarm Logic Design for Mass-Flow Networks 3021  Optimal Alarm Logic Design of Mass-Flow Networks 3021  Optimal Alarm Logic Design of Alara Logic Design of A	Ing Systems	Polymer Reactor
Modeling of Imperfect Mixing and Its Effects on Polymer Properties		
Properties		
Modeling of SiO <sub>2</sub> Deposition in Porous Vycor: Effects of Pore Network Connectivity 1849  Modeling Pressure Fluctuations via Correlation Structure in a Gas—Solids Fluidized Bed 1914  Modification of Frenkel's Model for Sintering 3253  Moisture Transport in Shrinking Gels During Saturated Drying 2112  Molecular Dynamics Study of Epitaxial Growth and Cluster Formation on MgO(001) 2765  Dynamics Terendoynamic Feed Conditions for Distillation of Ideal Binary Mixtures 2984  Oscillating Temperature Pulses during CO Oxidation on a Pd/Al <sub>2</sub> O <sub>3</sub> Ring 500 Coxidative Dehydrogenation of Butane Using Membrane Reactors 777  Oxygen Deficiency, Crystal System and Conduction Behavior of BaPb <sub>0.75</sub> Bi <sub>0.25</sub> O <sub>3.8</sub> 2865  Ozone Transfer with Optimal Design of a New Gas-Induced		
work Connectivity		
Modeling Pressure Fluctuations via Correlation Structure in a Gas—Solids Fluidized Bed		
Solids Fluidized Bed		
Modification of Frenkel's Model for Sintering		
Moisture Transport in Shrinking Gels During Saturated Drying		
Drying		
Molecular Dynamics Study of Epitaxial Growth and Cluster Formation on MgO(001)2765  BaPb <sub>0.75</sub> Bi <sub>0.25</sub> O <sub>3.8</sub>		
mation on MgO(001)		
Molecular Interactions in Chloroform-Diluent Mixtures196 Reactor	mation on MgO(001)2765	1 117 1 1100 1 2 3
	Molecular Interactions in Chloroform-Diluent Mixtures196	Reactor

P	Radiation Heat Transfer Down an Elongated Spheroidal Cavity2
Parallel Frontal Solver for Large-Scale Process Simulation and Optimization	Ramp-Up Centrifugation of Capillary Pressure Experiments
Parameterization of Pressure- and Temperature-Dependent Kinet-	Rate Parameters and Gradient Correlations for Gradient-Elution
ics in Multiple Well Reactions	Chromatography464
Particle Nucleation in Turbulent Gas Jets	Reaction Invariance and Stability in Catalyst Particles for Produc-
Permeability of Filter Cakes of Palm Oil in Relation to Mechanical	tion of Methanol1082
	Reactivation of the HZSM-5 Zeolite-Based Catalyst Used in the
Expression	MTG Process1551
Permeation Studies on Oriented Single-Crystal Ferrierite Membranes	Reaction Rates in Fractal vs. Uniform Catalysts with Linear and Nonlinear Kinetics
Perovskite-Type Oxide Membranes for the Oxidative Coupling of Methane	Recent Advances in Modeling Thermodynamic Properties of Aqueous Strong Electrolyte Systems180
Perturbation Solution to the Convection–Diffusion Equation with  Moving Fronts	Recovering Deterministic Behavior from Experimental Time
Phase Equilibria for the Mean-Force Potential of Globular Protein Solutions	Series in Mixing Reactor2194 Recovery and Purification of Paclitaxel Using Low-Pressure Liq-
Photon-Migration Measurement of Latex Size Distribution in Con-	uid Chromatography232
centrated Suspensions	Removal of Oil Films from Stainless Steel Tubes251
Plantwide Control Design Procedure	Resonant Microwave Power Absorption in Slabs and Cylinders
Polyelectrolyte Precipitate Formation During Miscible Displace-	
ment in Porous Media2415	Rheological Simulation of In-line Bubble Interactions265
Polymer Drag Reduction in Hydraulic Capsule Pipeline1117	Robust Design of Countercurrent Adsorption Separation Proc-
Polymer Trace Devolatilization: I. Foaming Experiments and	esses: 4. Desorbent in the Feed64
Model Development	Robust Technique for Quantification of NMR Imaging Data2137
Polymer Trace Devolatilization: II. Case Study and Experimental	Role of Coherent Structures on Reynolds Stresses in a 2-D Bubble Column
Verification	Role of Depletion and Surface-Induced Structural Forces in Bidis-
Polymer-Solute Diffusion and Equilibrium Parameters by Inverse Gas Chromatography2932	perse Suspensions3215
Polymerization Reactor Control Using Autoregressive-Plus Volter-	
ra-Based MPC1763	
Pore Modification Using the Supercritical Solution Infiltration	S
Pore Modification Using the Supercritical Solution Infiltration Method2359	S  Screening Effects When Sampling Suspensions in Laminar Flow
Pore Modification Using the Supercritical Solution Infiltration Method	
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow through Pores
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow through Pores
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow through Pores
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow through Pores
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow through Pores
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow through Pores
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow through Pores
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow through Pores
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow through Pores
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow through Pores
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow through Pores
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow through Pores
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow through Pores
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow through Pores
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow through Pores
Pore Modification Using the Supercritical Solution Infiltration Method	Screening Effects When Sampling Suspensions in Laminar Flow through Pores

Spread and Rebound of Liquid Droplets upon Impact on Flat Surfaces2169	Thermodynamics of Hydrogen Bonding from Molecular Orbital Theory: 2. Organics
Standing Wave Analysis of SMB Chromatography: Linear	Transient Behavior of Pulsed Particulate Fluidized Beds625
Systems	Transport Analysis of Diffusion-Induced Bubble Growth and Col-
Statistical Monitoring of Multivariable Dynamic Processes with	lapse in Viscous Liquids2948
State-Space Models2002	"Tunable" Diffusion of D2O in CO2-Swollen Poly(Methyl
Steady Spontaneous Capillary Flow in Partially Coated	Methacrylate) Films1838
Tubes645	Turbulence in Flocculators: Effects of Tank Size and Impeller
Steady-State Multiplicity in Cocurrently Cooled Autothermal	Type
Reactors	Turbulence Structure and Prediction of Interfacial Heat and Mass
Structural Stability of Chemical Process Plants	Transfer in Wavy-Stratified Flow1426
Study of a Six-Bed Pressure Swing Adsorption Process2509	Turbulence Structure and Scalar Transfer in Stratified Free-Surface
Surfactant Effects on Absorption in the Presence of Induced Inter-	Flows
facial Turbulence	Turbulent Reactive Mixing of Reversible Reactions303
Synthesis and Characterization of Mesoporous Niobium-Doped Silica Molecular Sieves2793	2-D Time-Dependent Viscoelastic Flow Calculations Using CON- NFFESSIT877
Synthesis of Crystallization–Distillation Hybrid Separation Processes	Two-Flux Radiation-Field Model for an Annular Packed-Bed Pho- tocatalytic Oxidation Reactor792
Synthesis of Drowning-Out Crystallization-Based	
Separations	U
Synthesis of Heat-Exchanger Network by Simulated Annealing and NLP Procedures	Unifying Approach to Modeling Granule Coalescence Mecha-
Synthesis of Reactive Crystallization Processes1737	nisms927
Synthesis of SIC(B) Ultrafine Particles from Si, SiO or SiO <sub>2</sub> Powder and CH <sub>4</sub> 2650	Unique Properties of 30-µm Particles as the Catalyst of Fluidized- Bed Reactors1190
Synthesis of SiO <sub>2</sub> and SnO <sub>2</sub> Particles in Diffusion Flame	Unsteady Heat and Mass Transfer from a Spheroid609
Reactors2657	Use of a Novel Autoassociative Neural Network for Nonlinear Steady-State Data Reconciliation
T	Steady-State Data reconcinuitin
Temperature Dependence of One-Component Permeation through	V
a Silicate-1 Membrane2203	Vacuum Membrane Distillation: Experiments and Modeling398
Temperature Distribution Around Heated Horizontal Jet in Flu- idized Bed2373	Validity of One-Dimensional Equation Governing Extrusion Die
Temperature-Dependent Behavior of Polyethylene Oxide in Paper- making Suspensions2353	Flow
Thermal Decomposition of Barium Titanate Precursor Prepared by a Wet Chemical Method2837	from Molecular Simulation212
Thermal Properties of Hydrogen Fluoride from EOS + Association Model2381	W
Thermally Enhanced Extraction of Citric Acid Through Supported	Wall Slip in the Capillary Flow of Molten Polymers Subject to Vis
Liquid Membrane2376	cous Heating598
Thermochemistry of Aqueous Silicate Solution Precursors to Ceramics	Wavelet-Based Density Estimation and Application to Proces Monitoring122'
Thermodynamic Behavior of Reactive Azeotropes2227	
Thermodynamic Consistency of Vapor-Liquid Equilibrium Data at High Pressure	Y
Thermodynamics of Hydrogen Bonding from Molecular Orbital	Yield Stress of Suspensions Loaded with Size Distribute
Theory: 1. Water	Particles

